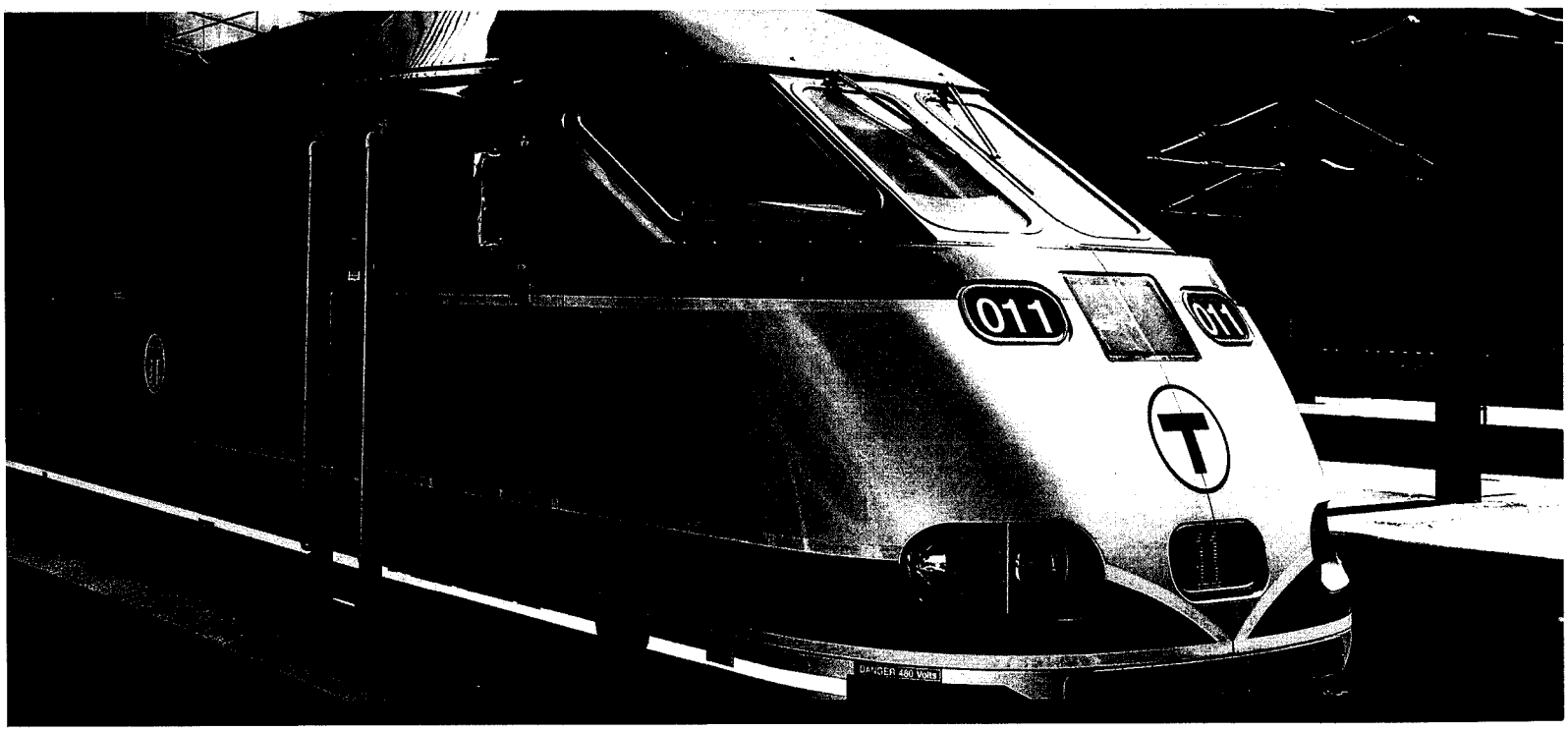
Public Copy **RFP No. 159-12**

Operations and Management Proposal

for

MBTA Commuter Rail Services

VEOLIA TRANSPORTATION aci BOMBARDIER



MASSACHUSETTS BAY COMMUTER RAILROAD COMPANY MBCR

August 9, 2013

Mr. Gerald K. Kelley
First Deputy General Counsel
Massachusetts Bay Transportation Authority
Legal Department, 7th Floor
Ten Park Plaza, Room 2810
Boston MA 02116-3974

Dear Mr. Kelley,

The Massachusetts Bay Commuter Railroad Company, LLC (MBCR) is delighted to submit our proposal to operate the Massachusetts Bay Transportation Authority's (MBTA) commuter rail network in response to RFP #159-12. MBCR strongly asserts our desire to be the successful proposer for the next commuter rail contract.

MBCR is a limited liability company, qualified to do business in Massachusetts, with its corporate offices located at 89 South Street, 8th floor, Boston, MA 02111. MBCR has three equity members – Alternate Concepts, Inc. (ACI), Bombardier Transit Corporation (Bombardier), and Veolia Transportation, Inc. MBCR is a railroad under federal law and is an employer covered by the Railroad Retirement Act and the Railroad Unemployment Insurance Act.

As MBTA's current operator since 2003, MBCR has demonstrated its commitment to provide a safe and reliable commuter rail service in which the customer is at the center of everything we do. After 10 years of operations, the MBCR team understands the complexity of this railroad, the challenges of the fleet, the demands of our customers, and the pressures that the MBTA faces every day from its stakeholders. Our job is to be there for you and to provide our customers with service that ranks at the very top of the nation's commuter rail systems. During the next 12 years, we are committed to taking MBCR to the next level with new quality processes, expanded customer service, innovative marketing programs, a dedicated workforce, and significant value adds including the financing and development of a South Side Maintenance Facility and the procurement and operation of diesel-multiple unit trains, to name just a few. And, it all begins with our new General Manager, Bonnie Murphy, a seasoned commuter rail operator and rail safety specialist who has worked at the highest levels in government and the private sector.

Marie Breen is our contact person through the remainder of this procurement. Ms. Breen is located at the corporate address noted above and her phone number is (617) 222-8024, fax number is 617-222-8023, and email address is marie.breen@mbcr.net.

We are truly excited about the next phase of our relationship with MBTA and delivering on the promises we have made in our proposal. We look forward to discussing our proposal with you.

Sincerely,

Ronald J. Hartman
Director and Authorized Representative
Massachusetts Bay Commuter Railroad Company, LLC.

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Executive Summary

MBCR

Summary of our Major Investments and Innovations

Safety

- **Behavior Based Safety Training** to identify and avoid at-risk behavior
- **"Stay Focused! Stay Safe!"** campaign to keep employees safe and on task
- **Confidential Close Call Reporting System** to assure transparency
- FRA partnership research to develop **training to avoid distraction**

Mechanical

- Bombardier's **World-Class Operations and Maintenance** next-generation approach
- Life Cycle Maintenance evolution to **Reliability Centered Maintenance**
- **Maintenance Operations Control Center** to manage vehicle performance in real-time
- **Sentio technology** to access latest solutions with hand-helds while trouble-shooting
- **Access to Trapeze EAM** through portable devices for real-time submission of data
- **Financing and development of new Southside Maintenance Facility** for savings and quality*

Engineering

- **RTC Model** to simulate effects of proposed infrastructure improvements
- **Planning/Scheduling Team** for productive utilization of crews, machines, and materials
- **Advanced Signal Training Facility** to keep us at the forefront of technology
- **New Trapeze Enterprise Asset Management modules** for Mechanical and Engineering
- **Solar panels on CRMF facility** as part of sustainability program*

Transportation

- **Full rollout of Conductor Companion** for real time service information
- **Zone Plan** for more direct, accountable management of stations and crews
- **Train Consist Optimization** to reassign equipment for seating capacity/compliance
- **Enhanced Analytics** to optimize vehicle hours and maintenance time
- **Automated Passenger Counting** to match equipment/staffing to demand
- **Two New Training Simulators** for Engineers to improve skills
- **Veolia Genius System** to project how fare and service changes affect revenue
- **Driver Assist Technology** saves 6-8% fuel*
- **DMUs** for flexibility, efficiency, and customer convenience

Customer Service

- **New poster display units** at all stations with user-friendly information
- **Customer Companion** app for complete information and real-time arrivals
- **On-board card payments,** web ticketing & print-at home options with Masabi
- **Digimind** platform for monitoring, responding and managing all social media
- **Cross-departmental Leadership Team** to identify root causes of issues and solutions
- **Veolia's Mystery Traveler** program to audit our performance
- Online web portal, **Commuter Rail LAB,** for rider input on services and plans
- Continue successful community **outreach programs** like Gold Star Memorial Train
- **Multi-media program to educate new riders** "How to Ride"
- **Revenue-building campaign** to attract more frequent & occasional riders*
- **Purple+ Loyalty Program** where passengers earn points to receive rewards*

Management

- Fully implement comprehensive **Quality Assurance Program**
- Headquarters move to new **Roxbury building** to stimulate local redevelopment
- **New KPI Online Dashboard** with full management-by-KPI procedures
- Expansion of **Mentoring Program**
- New **Training Center of Excellence** in Readville (4,500 sq. ft.)

DBE

- **Outreach Sessions** to further deepen our DBE community relationships
- Partnership with NICI (leading DBE firm) for additional **DBE support**
- **Online DBE Notification System** for procurement updates

EEO

- **Extend outreach** and increase work with leading **diversity organizations**

IT

- **Data Center relocation** to the renowned Markley Center

****Asterisks indicate Improvement Proposals.***

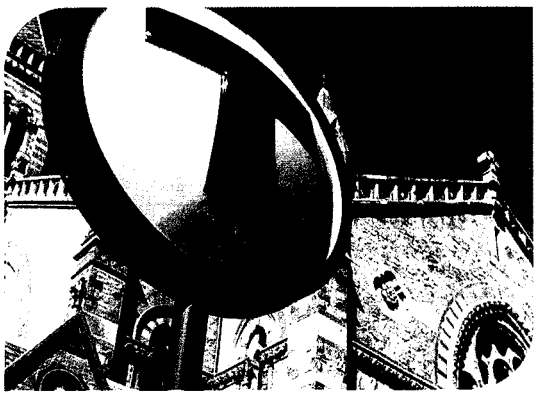
All Aboard!

Executive Summary

MBTA commuter rail is "the railroad that could." With most cities facing aging infrastructure and financial limits, Boston's Commuter Rail has flourished. The partnership between MBTA and MBCR is based on results, continuous improvement, trust and accountability. Together, we have driven on-time performance to its highest levels and employee injuries to the lowest levels…ever. Working together to create efficiencies, MBTA is the lowest cost Commuter Rail network among the 10 largest systems, according to Federal data.

Together we have worked to create a diverse workforce, hiring and promoting women and minorities in record numbers including into our most key positions. MBCR is the real deal with more U.S. Commuter Rail experience than all of our competitors combined, solid FRA relationships, and extensive international and local rail expertise and resources. And we have brought these resources to the MBTA side during the good times and the bad – when Boston celebrated its teams' successes, when the 2012 blizzard slammed Massachusetts, and when the recent tragedy on Boylston struck all of us. MBCR exists for one purpose only – to operate, maintain and manage the MBTA's Commuter Rail network. We are poised to take MBCR to the next level for the MBTA and our customers with powerful innovations and new practices. More than anything, we offer positive change without the risk of an untested operator. This is MBCR 2.0.

Massachusetts' roots go back to the Native Americans and its future goes to wherever man's imagination takes it. Massachusetts honors its traditions – from the call to arms on revolutionary battlefields to Sweet Caroline at Fenway Park. We embrace the new – from the latest biomedical advances at MGH to the software applications invented in one of the nation's largest technology clusters, Massachusetts changes, grows and gets better.



Greater Boston is a mosaic of neighborhoods, towns, and cities, housing people who have lived here for generations and people who came yesterday. Everyone has their own traditions, cultures, and ways of life but they also come together as one Boston as the world recently saw.

The MBTA, The T, reflects all of this – the history, the future, the diversity, the complexity, this drive to improve – and all the challenges that come along when you move the region. The T touches everyone.

In no city in the world does one letter mean so much to so many.

We are the T too.

The Massachusetts Bay Commuter Railroad (MBCR) came together for the single purpose of being the T's rail partner to serve its customers. It is why we exist and it is all that we do. The MBTA and its customers receive 100% of our attention all the time. We live here and we work here. Our employees are your friends, your families, and your neighbors. We were at your side during the storms and blizzards, when the Patriots, Sox, Celtics, and Bruins became world champions, and we were with you during last winter's blizzard and the terrible events beginning April 15.

You don't just march into Boston and proclaim "we're here." You earn your stripes every day and every minute.

Together, we have successfully accomplished significant expansions to the service with Greenbush, TF Green, Wickford, and most recently the Cape. We have upgraded hundreds of miles of track, bridges, and stations. We created a Customer Service Department and placed the customer in our spotlight with reliability and real-time information. We added the Truck Shop and improved equipment availability from the CRMF (Commuter Rail Maintenance Facility), even when we lost access across the Grand Junction. We have provided and supported special events and run special trains, with the Gold Star tribute to Massachusetts' veterans displaying the best of MBTA and MBCR. We have not only reduced passenger injuries by almost 80% over the past five years to their lowest levels ever experienced, we moved MBTA Commuter Rail into first place in the first half of 2013 with the fewest Reportable Injuries and the lowest Accident Frequency Ratio when compared to other networks against which we measure our performance. We operate with 95% and above contractual on-time performance and our customer complaints are at their lowest level as well. National Transit Data reports the MBTA has the lowest cost per revenue mile for 2009-2011 out of the top ten U.S. commuter railroads.

Admittedly, at times we have stumbled. There were air conditioning failures in 2006, and the severe winter struggles in 2010. But in each case we applied the principles of continuous improvement to learn from our mistakes, implement corrective actions, measure the results, and constantly re-assess performance. This past winter, despite close to 100 inches of snow in the region, we operated safely, reliably, and without unplanned outages, earning compliments from many customers. This summer, we are again confidently providing air-conditioned coaches to customers with over 99% reliability, as we've done in in almost all summers past.

But, as a certain Secretary of Transportation has said, "you are only as good as your last rush hour."

So what comes next?

We lay out the vision for the next 12 years and we prove to you that MBCR uniquely is the only team that can make it reality.

Our vision rests on the foundation of **Boston-tested** sound, safe, passenger-focused, and reliable operations. It launches from a pad of existing service propelled by innovation, new techniques and products, all priced to balance between what it takes to operate Commuter Rail to your requirements and what public agencies are facing in the current economic climate. Our vision offers **positive change without risk** – without the inherent risk of transitioning so large and complex a network. With MBCR you can be confident that we will continue to attract and employ a talented, motivated, and committed work force that gets it done day in and day out and that we will be ready to go under the revised provisions of the new contract on July 1, 2014. It is easy to make promises in a proposal; but actual delivery is another matter entirely. With MBCR, there is no transition risk and there will be no repeat of the storied issues that preceded us in 1998. Our plans are innovative, rigorous and rooted in reality.

Our Vision

The MBCR vision is to be the mode of choice for eastern Massachusetts' travelers by continuing to create a Commuter Rail network that is known, appreciated, intuitively meets customer needs, and achieves operational and financial benefits for the MBTA. Our vision is aligned with your objective of achieving safe, integrated, accessible and reliable rail services with customer needs the ultimate priority. Our vision recognizes the needs of customers and the MBTA, but also the cities and towns we serve, local officials, the media, our employees, and taxpayers.

We turn visions into real life. We offer a future of continuous, sustained improvement without the risk of failure from an operator that doesn't understand the needs of Boston customers, commuter operations on a complex U.S. rail system, multiple equipment types, severe weather, maintaining harmony with multiple labor organizations, the politics, and all the other factors that make Massachusetts a unique place to operate a commuter railroad.

MBCR is delivering immediate and identifiable improvements right now, and providing reliable, safe, timely and comfortable service. We're not waiting until July of 2014 to get started; we're implementing improvements continuously.

Greater Boston: Dateline 2020

Great cities have great transit systems and Boston has one of the greatest. Among its jewels is a Commuter Rail network that serves nearly every significant residential, employment, and travel corridor within 90 minutes of downtown Boston. It is one of the reasons surveys show that people and businesses are attracted to the region. Today, the Commuter Rail network, now having been operated by MBCR for 17 years, is enjoying record ridership and customer satisfaction ratings.

Take a ride with us.

Drive down the highway and a digital sign invites you to pull in here because the next train to South Station leaves in 8 minutes. Glance at your phone as you head to the platform and the message says your train is now 5 minutes away and the largest number of empty seats are in the 5th and 6th Rotem bi-level cars. A digital sign on the platform repeats this information.

Overnight, the train you are about to board has been thoroughly cleaned and inspected at the recently opened new South Side Maintenance facility, eliminating the need for coaches and locomotives to travel for hours through the streets of Cambridge to the Commuter Rail Maintenance Facility. Recent maintenance was conducted by technicians whose primary tools are laptops and iPads rather than wrenches. Consistent historical and activity data is immediately available on every coach and locomotive, just as doctors review a patient's chart before any procedure.

Tap your phone again at a post on the platform and your fare is paid. Board the train, sink into the seat, and put on your iPad with a powerful Wi-Fi signal that does not fade as you travel. After you've checked the latest emails or Facebook posts, connect to the news or music or videos which are being streamed. The only interruption is a conductor who reads a digital signal on your phone that says your fare is paid. Verbal announcements are made of station stops along with any important notifications of service changes as well as visually displayed on a screen which also tells you exactly when you will arrive at North Station.

The train pulls into South Station. A DMU is at the next platform. It looks like a modern light rail car – all windows with wide doors. It is about to head out for a quick trip to Fairmount, which like other near-in stations, now offers departures every 30 minutes. As you leave the station, tap your phone once again and you will be rewarded for your trip with 30 PPs (PurplePoints) which added to the 270 you already have gets you a free egg sandwich and coffee at Dunkins. And by the way, fill out a quick survey on your rail experience on your phone, and you get another 30 PPs. Why would you travel any other way?

The MBCR Partners

MBCR is managed by a Board of Directors made up of the senior executives of our member partners (Alternate Concepts Inc., Bombardier Transit Corporation, and Veolia Transportation Inc.)

Our partners are private-sector, industry-leading companies with extensive experience successfully operating and maintaining rail systems within America for public clients, operating and maintaining more U.S. commuter rail systems than all of our competitors combined.

Our team also brings unmatched international experience in rail operations, maintenance, marketing, ticketing, integration, and vehicle manufacturing. Both Veolia and Bombardier operate and maintain rail services all over the world and are bringing those best practices and experience to Boston. Bombardier and Veolia both bring experience from multiple U.S. locations in operating and maintaining MPI locomotives, and Rotem coaches. ACI operates rail systems nationally and has unique local knowledge from years of experience working with the MBTA. Veolia's global marketing team has contributed significantly to our ridership-building proposal in Supplemental Appendix 5. Together with the MBTA, we have the best of what government and private enterprise have to offer. With certain advantages over government railroads, our partners supply private sector efficiency, flexibility, innovation, and customer-driven improvements within the context of public policy, regulation, and investment.

MBCR Core Values

These values frame our culture and guide our behavior and we work to instill these into the hearts and minds of the MBCR team.

Safety. Nothing matters if we do not do it safely. It infuses every activity we undertake whether on the operating network, in our shops, or in our offices. Every customer and every employee must return to their families and friends every night. This is our most important goal.

Commitment. For us, commitment is our single-minded dedication to the MBTA – our one and only client – setting the standard for Commuter Rail and dedication to meeting the needs of the MBTA's stakeholders—customers and taxpayers. On our team, we are committed to each other in mutual support and success in achieving our common goals.

Passion. We serve people and we run trains. That is what we do. We know that what we do makes a difference in our customers' lives every day. Our collective efforts make it possible for people to work, go to school, access health care, and even cheer on the local teams. How could anyone not be passionate about that?

Respect. We respect the MBTA and the challenges it overcomes every day in moving Massachusetts. We respect our customers and we respect their schedules and their need to get places in comfort when our timetables promise they will. We strive to respect each other and the jobs we do each and every day to operate this vast network. And, we respect diversity, understanding that each individual brings a different set of experiences, perspectives, and vantage points, which together create a whole that is greater than the sum of the parts.

Performance. It's about what our customers experience every day. Our customers have lots to do and face life's challenges every day – work, kids, health concerns, bills...Commuter rail service must be what they don't have to worry about. Performance has to be as near perfect as possible. We get it.

Our Approach to this Project

Positive change without risk and placing customers in the center of everything we do captures MBCR's all-encompassing approach to this contract. We are committed to developing better solutions for all stakeholders through incremental, deliverable, and measurable change. **We have challenged our MBCR team as well as our outside specialist partners and our colleagues in other operations of our respective companies to find 'a better way' across every discipline.**

We are committed to a continual focus on deepening our culture of safety and customer service in all departments of the organization. Our accomplished customer service and safety teams will continue to augment the existing strong suite of training programs for the hundreds of frontline staff. In addition, they will design new training and workshops for everyone in the organization to reinforce how each employee's role and efforts, in all departments, impact the customer experience and safety. We will also implement new recognition programs to reward positive behavior, recruit for qualities like empathy and friendliness in front line staff (in addition to job-related skills), and empower a culture committee for employee engagement. We will measure our progress in these areas with employee surveys.

We make these promises:

MBCR has an uncompromising commitment to safety, which is driven by best practice safety performance in partnership with our employees and stakeholders. Safety is key in our service delivery promise and a core value for our organization. Our safety commitment is captured and represented in our Safety Charter, which we will seek to have signed by all employees because safety is a condition of employment at MBCR.

MBCR'S SIX PRINCIPLES OF SAFETY:

A Preventing injuries and accidents is **my responsibility,** and that of all employees.

B Training is essential for safety compliance and performance. **I will fully engage** in training programs offered to me.

C Safety is a condition of my employment. **I am responsible** to act safely at all times.

D All injuries can be prevented. **I will do my best** to prevent injury to myself and others.

E Exposures to unsafe conditions can be safe guarded. **I will do my best** to prevent and repair unsafe conditions.

F Safety is good business and the right thing to do. **I am personally committed** to safe practices.

MY PERSONAL COMMITMENT

Sign Here:

Employee Signature / Date

There is no company that will not tell you safety comes first. It is an easy thing to say. It is not an easy thing to do. Garden variety safety focuses on rules, training, and discipline. But, it goes far deeper than that. Of course, there must be a comprehensive set of rules. All members of the team have to be trained in applicable rules and safe practices. They have to be tested and there needs to be appropriate consequences when those practices are not followed. That's the black-and-white part.

Then there is culture – hard to define but you know it when it is present. Culture is made up of the norms that shape how we behave. It exists in the minds and hearts of the entire team and is evident in their actions. The most important elements are respect and trust which enable simple, open, and free-flowing communication between supervisors and subordinates and among peers.

When it is there, it looks like this:

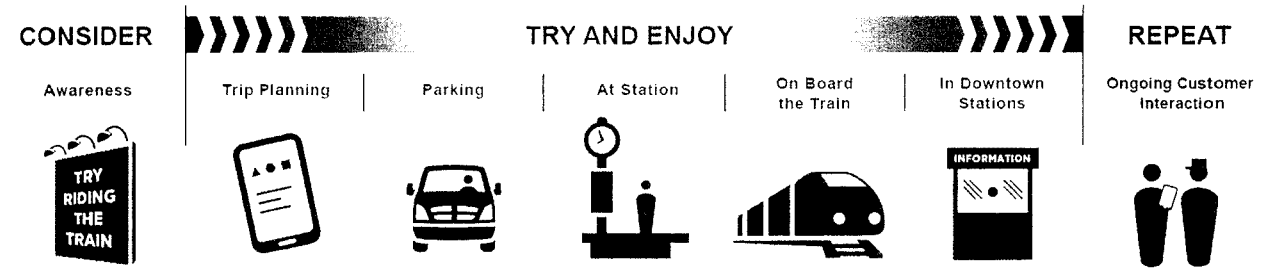
You will not find a company more committed to safety and to becoming absolute best in class.

The rules and the correct practices are communicated, heard, understood, and assimilated into everyone's attitude, outlook and behavior. It is always OK to speak up freely about a safety concern without fear of retribution. It is always OK to point out a hazard or that there has been a breach – whether committed by a colleague or oneself. It is more than OK, it is expected, anticipated and the natural thing to do. It is an environment of mutual respect in which each individual cares as much for his or her own personal safety as for the safety of our customers and fellow employees. Most of all, it is about always doing the right thing – even when no one is watching.

Has MBCR reached that perfect state? No. We have made impressive progress achieving the best commuter rail safety record nationally thus far in 2013. But, **every day we make our most personal promise to you, to our customers, and to each other, that we have the resources, the motivation, and the passion devoted to continuous safety compliance and improvement.** You will not find a company more committed to safety and to becoming absolute best in class.

2 Caring About Our Customers

From our first operations in Boston, the MBTA forcefully articulated its aspiration that customers must be at the center of everything its commuter rail operator does. We have lived up to that and we commit to you that we will continue to deliver and will take this to new levels. We know our customers. We respect their schedules and their need to get places in comfort when our timetables promise they will. We respect their need to be informed always – when things are going right and when they sometimes do not. We embrace the MBTA's commitment to deploy new digital technology to improve customer information and satisfaction.



MBCR's Customer Service department has delivered numerous key innovations including "Rail Mail" email alerts to passengers about planned track work, our innovative Conductor Companion™ app which provides Conductors with all essential information including T-Alerts and real-time train locations, and our successful revenue protection program "Buy Before you Board." We also developed Parature, a digital system that tracks and analyzes customer concerns. Parature captures customer feedback submitted via email, web, and phone, shares the concerns with key MBCR and

MBTA stakeholders (such as the MBTA Railroad Operations division), responds to customers, and uses the concerns to drive service improvements and new customer initiatives.

Customer service is not the role of the Customer Service Department alone. **It is the role of every MBCR employee.** During MBCR 2.0, we will continue to bring to bear every tool and strategy we have to serve the passenger and import others proven in our overseas networks. This includes recruiting to find people who want to work in a hospitality role, to ongoing training for conductors and everyone who interacts with customers in any capacity, to transportation, engineering and mechanical plans that make sure trains run reliably on well-maintained tracks and provide comfortable environments, to dispatchers and others who can constantly communicate what is occurring on the network, to systems that work all the time, and to clean stations that are user-friendly and well-signed. Some of what we now do and much of what we will do is technology based. Consider where the world has come since 2003. Today, the cell phone is no longer just a means to talk – you can purchase tickets, order a pizza, communicate at once to thousands of people, send photos, watch your kids at school, read the great American novel, or write the great American novel – and we are just scratching the surface. During MBCR 2.0, we will introduce products that did not exist in 2002 and future products that we cannot even dream about today.

3 High-Performing Culture

A high-performance culture means a set of values and shared behaviors driven to produce the best possible results – in this case the safe movement of thousands of individual customers each day. A high-performance culture means a high-performance team. Our team is made up of a group of people who have specific roles but with complementary skills, who will rally around this common goal. **They are not afraid of making decisions, they communicate with each other, they trust each other, and they respect the diversity each contributes.** With a solid set of goals and integrated action plans, they produce high-level results.

Our team resides in the Boston area and is 100% dedicated to MBTA. We are your team.

Our leadership team blends a **diverse group of women and men** – some of whom have been with MBCR from day one in July 2003, others who have joined along the way, and still others who are boarding for this new engagement. Our team was built and retained for their knowledge of domestic and international railroad operations, and for their deep understanding of the MBTA and its commuter rail system and customers. Their resumes are found in Section 8 - Management Plan.

MBCR is transitioning its management team to be more data driven within a culture of continuous improvement. To do this, we are training all managers in the tools of Quality Management, and upgrading and purchasing systems to support data collection and analysis. Our management team is increasingly utilizing robust Key Performance Indicators to gauge our performance, with cascading performance indicators, goals, and objectives to all levels of the organization. We will soon deploy a new KPI online dashboard providing visibility to all departments and the MBTA. We are implementing our Zone Plan, to put managers closer to the employees, and to increase accountability and ownership for performance.

Moving into the next contract term, MBCR has developed extensive plans to revamp and reinvigorate the company training program, as discussed in Supplemental Appendix 7. We are completing our plan to establish a hub within our service area for training of all our mechanical and transportation workforce. The center has already been established with 4,500 square feet dedicated for training classrooms, workstations, and will be expanded with two locomotive simulators.

For us, a high-performance culture means people and actions that care desperately about what they do and about doing it right. They understand that we are only here for our customers and going the extra mile has to be the norm rather than the exception. People in this culture believe they "own" the

system and they are personally responsible for MBCR's success every day. It is not just a job. We have tried to continually facilitate this atmosphere and going forward, we will get closer to this end state through our focus on quality, plus our values, management approach, training, mentoring, counseling and coaching, and our programs of rewards and incentives.

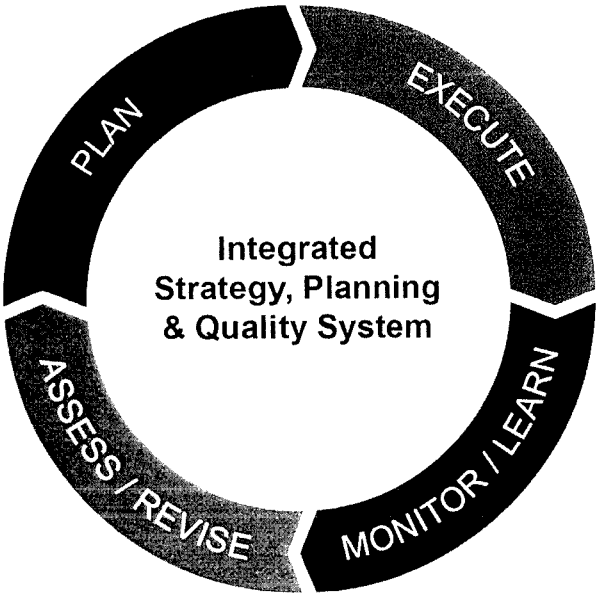
Plan, Execute, Monitor, Assess (Quality Process) Cycle

Plan

- Strategic Review Process
- Management Operations and Maintenance Planning Process
- Clear Objectives
- Scenario Planning
- Well-Communicated Strategies
- Rigorous Project Plans & Timelines
- Well-Managed Budgets

Assess / Revise

- Analytical Tools
- ISPQ Process
- Root Cause Analysis
- Technology
- Review Cycles
- Identify Further Improvements



Execute

- Management Operations and Maintenance Plan
- Implement New Work Practices Technology and Initiatives
- Integrated Management System
- Position Descriptions
- Performance Management System
- Improve Cross-Departmental Collaboration

Monitor / Learn

- KPIs
- New KPI Dashboard
- Daily Operations Calls
- Management and Client Reports
- Audits
- Mystery Riders

General Manager, Bonnie J. Murphy, a 30-year rail industry professional with experience operating, managing, and overseeing commuter and intercity passenger rail operations and an extensive background in safety and regulatory compliance, leads our team. She is highly focused on our Quality Assurance Plan, as described above. She manages a highly skilled and increasingly diverse workforce through recruiting, training, and successful collaboration with the 14 labor organizations. We focused on adding diverse employees to the workforce, intent on adding professionals from a multitude of backgrounds. To date, we have increased the number of female employees by 54% since 2003, and the number of minority employees by 75%.

4 Protecting Your Assets

Facility, system, and fleet assets are central to superior service delivery. An exceptional management strategy that maximizes asset performance is fundamental. Research shows the management of assets is a key driver of customer satisfaction and attracting new riders. In both our mechanical and engineering plans, we have taken our current experience and all the lessons we have learned and amped them up with new performance processes and protocols. The result will be the maintenance and protection of equipment, systems, and facilities to higher standards with a more efficient workforce. We are raising maintenance outcomes on legacy equipment and will execute our rigorous plan for integrating new MPI locomotives and Rotem coaches. We will also implement the **industry-leading practices of World Class Operations & Maintenance and steadfastly transition to Reliability-Centered Maintenance.** These initiatives and commitments are outlined in Section 4 - Mechanical and Section 5 - Engineering.

A significant aspect of protecting your assets means operating and maintaining those assets **in a context of environmental consciousness** and recognizing our corporate responsibility to you and to our world. As a regional partner with the communities we serves, we assume the mantle of social responsibility and sustainability, ingraining these attributes into our operations. Our Sustainability Plan requires that we conduct our operations in a manner that is environmentally sound and in accordance with the identified best practices for managing a rail system amidst one of the country's most robust metropolitan service areas. We have taken best practices from here at home and from our European operations. Our Sustainability Plan, found in Supplemental Appendix 3, lays these out.

5 Industry-leading Operational Performance

We will not rest until our performance is at the top of every commuter rail ranking. We are already among the top for safety, cost effectiveness and on-time performance. We will do more.

Quality operational performance is the only way to keep current customers satisfied and attract new ones that stay. We do not view any customer as dependent. They all have choices – cars, friends to pick them up, even to forego making the trip. We want everyone who uses Commuter Rail to experience comfortable trains that are punctual and save time. And, if they don't save time, they create time by offering an extra hour of sleep, work, reading, surfing, or just zoning out. The only way to really discuss operational performance is to do what we have done: communicate clear performance goals and religiously track our adherence to them. Our goals, targets, and management plans are found throughout our proposal.

6 Providing Value and Efficiency for Your Money

We treat your money as if it is our money....and it is because we are all Massachusetts taxpayers. MBCR took what had been a cost-plus contract historically and brought the discipline and strategic mindset necessary to deliver quality service for a fixed price. We know the fiscal realities facing the Commonwealth and the MBTA. We review and analyze our costs every day and we are proud that National Transit Data reports show the **MBTA commuter rail system is the most cost-effective of the top ten largest U.S. commuter railroads in expense per revenue mile** and the third most cost effective among the top twenty. This is for 2009 to 2011 for the entire nation, the most recent available data.

To create value in MBCR 2.0 we have employed the following strategies;

- Execute new processes and protocols which achieve our performance objectives in less time and with fewer people;
- Improve the utilization of equipment to allow for more trips with fewer resources resulting in proportionate reductions in operating costs; and
- Bring innovations such as the driver-assisted locomotive operations system which results in better fuel innovation through our Improvement Proposal.

On the other side of the ledger, we have worked hard to increase revenue opportunities. These efforts included the "Buy Before You Board" initiative targeting ticketing fraud, revenue blitzes to maximize collection of onboard fares, and annual training to ensure the highest possible level of onboard fare collection. Training paid dividends in 2011 when an alert conductor recognized and reported a fraudulent commuter rail pass, which led to the discovery of a multi-million dollar fare

theft ring. In this proposal, we ask you to consider a number of innovative ways to leverage commuter rail assets and to collect more revenue through inventive marketing programs, and a passenger loyalty program. Details are found in Supplemental Appendix 5 – Customer Service.

However, let's talk about costs and value for your money in one more way. We have eliminated positions, improved processes and organizations, and changed the way we conduct business in many areas to reduce our price, while accommodating the new requirements you have requested. As important as what we have done is what we have not done. We have not slashed our price by significantly reducing staff and paying less than fair labor compensation, thinking we can always come back to you for more. We have worked hard to build a labor-management alliance resulting in uninterrupted service while providing our employees with a fair and reasonable compensation package. That said, we are both aggressive in our labor negotiations but also realistic. Further, we have not eliminated essential functions and support services that give us the ability to confidently serve customers in the complex, turbulent environment in which anything can happen at any time. Our price recognizes reality and is the lowest it can be to offer the MBTA (1) value for your money; and (2) certainty of costs and service quality – **delivering positive change without risk.**

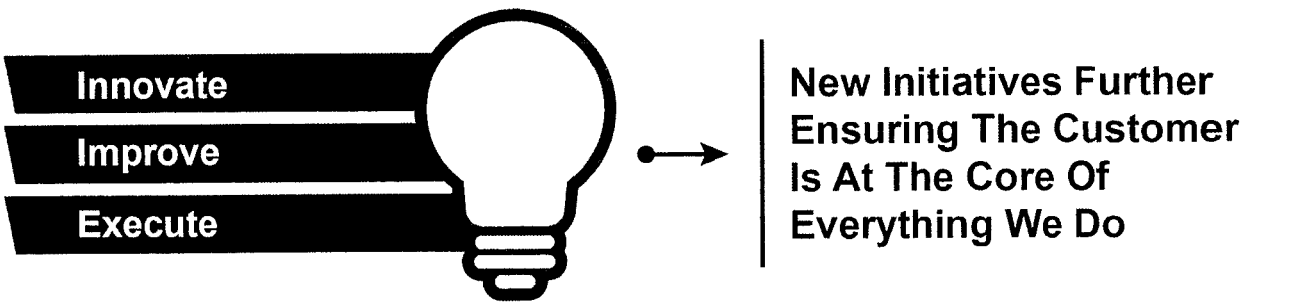
7 Innovating and Growing

Oak Ridge physicist William Pollard said:

"Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow";

We had these thoughts in mind, when we crafted this proposal. Over the last 10 years, within the context of a fixed price contract, we have brought many innovations to MBCR from Conductor Companion to the development of new HVAC processes and snow-clearing tools. All of these advances ultimately benefit the customer – even if they never see them. Our innovations have improved the day-to-day customer experience within a complex and tightly-orchestrated passenger rail system, validated by our low customer complaint rate.

In this document, we provide many proposals to improve the customer experience through both visible improvements and others behind the scenes. The customers will not see but will feel the benefits of everything from a new maintenance facility specifically for new Rotem cars and MPI locomotives, to a new quality system already paying benefits with ISO certification, and a Reliability Centered Maintenance System. For equipment and infrastructure, MBCR will rely on new technological tools to move from being a rolling stock and infrastructure maintainer, to a proactive, data-driven asset manager, responsible for strengthening infrastructure and delivering a best-in-class network.



Onward and Upward

An old joke in the railroad industry was the saying, "Wouldn't the railroad be perfect without all those passengers to get in the way?" Ironically, however, Commuter Rail is all about one thing: the passengers.

When we started in 2003, we set about changing the mindset from one of moving trains to one of moving people. In addition to this critical change in perspective, MBCR understood its role as operator was specifically to provide the MBTA with a reliable, accountable, and responsive partner. This proposal is designed to build on the best practices we have set in place, import new ones, and supply new ways of doing things and innovation – all designed to continually give the customer more reliability, more information, and more comfort on the train. Proposal highlights are these:

Safety & Security – MBCR has built a comprehensive safety and security program earning the American Public Transportation Association's (APTA) recognition of our System Safety Program Plan as an Industry Best Practice, as well as certification from the World Safety Organization for its key safety staff members. We lead the Commuter Rail industry with the lowest level of injuries in 2013.

Building on the above, we will introduce *Behavior Based Safety Security Training* that focuses on reducing at-risk behaviors in the workplace through observation and feedback. This program trains staff to prevent workplace accidents by observing workers in everyday operations.

Moreover, we are at the forefront of industry-leading research to keep engineers focused on the tasks at hand when operating trains. MBCR, through Veolia Transportation's partnership with the Federal Railroad Administration (FRA), has pioneered the development of training that will teach MBCR engineers how to recognize when they are experiencing mind-wandering and return quickly to operational focus. Using MBCR test engineers, this work is being done at the US Department of Transportation's Volpe Center in Cambridge. Within the next year, in collaboration with the Brotherhood of Locomotive Engineers and Trainmen (BLET), we will provide this training to all MBCR engineers.

MBCR will participate fully in the *Confidential Close Call Reporting System*, a voluntary, confidential program for employees to report close calls without receiving disciplinary action; we will continue our successful Biennial Safety Campaign "Stay Focused, Stay Safe"; our safety and security staff will be trained in Quality Management techniques, and our managers, employees, and subcontractors will receive expanded NIMS Training and Certification on the Homeland Security program for interaction and coordination with other agencies and first responders.

Mechanical Services – MBCR Mechanical has made significant accomplishments in safety, innovation, reliability, and quality. Delays attributable to mechanical issues have dropped significantly since 2003 and department employees have experienced a 33% reduction in injuries over the past two years. In partnership with MBTA we overhauled 300 coach A/C units to provide cool car reliability of over 99% since 2007, we created a dedicated truck shop to significantly reduce equipment out-of-service time, and we achieved ISO 9001 certification. In 2006 we developed a help desk to support train and engine crews in the field; in 2009 our mechanical staff created an innovative cover to protect traction motors, resulting in a 31% reduction in repairs; and in 2011 and 2012, we implemented training programs on the MBTA's new MPI and Rotem equipment. We will apply Alternate Current Field Technology to wheels prior to truing to extend wheel life; provide our technicians with on-demand access to troubleshooting knowledge for safe and accurate repairs or maintenance, including for the new equipment, through a hand-held or kiosk utilizing Sentio Technology and we will purchase a mobile fueling truck to facilitate equipment-side fueling of trains from North Station.

We will create a dedicated South side fleet, with all inspections and maintenance performed there, reducing the time spent shuttling equipment back and forth to the CRMF, facilitating more efficient parts staging, allowing more employee specialization on specific equipment, resulting in more accountability for performance of equipment assigned to the North and South sides. We are proposing to finance and develop a strategically located new Southside Maintenance facility that will be a mechanical game-changer.

Our Mechanical Department has already begun Quality Management training and ASQ certification for its managers in preparation for the implementation of WCO&M (World Class Operations and Maintenance), an industry leading practice of equipment maintenance that was developed and first implemented in the Virgin Train Operations in the UK by Bombardier Transportation. The WCO&M program includes the extensive collection of data to support the continuous analysis of component performance and failure information to derive preventative strategies and inform maintenance practices. As the historical performance data builds over time, the maintenance practices and timing become more predictive based upon the continuous analysis of component performance (Detail in Section 4 Mechanical and Supplemental Appendix 2).

WCO&M concepts and practices will be applied to Life Cycle Maintenance practices, with OEM standards used as the guiding basis for maintenance. As data accumulates on the performance of each individual component, a transition will occur to Reliability Centered Maintenance (RCM). RCM allows the maintenance timing, actions and practices to become predictive and specifically designed around the actual performance of every component based upon its history in service.

Engineering Services – MBCR Engineering, in partnership with the MBTA, has been creating industry-leading changes through innovative successes such as the installation of Wi-Fi service for on-board customers and the initiation of AM Radio links at stations to allow riders to monitor the progress and arrival of their trains from the comfort of their automobiles. In addition, MBCR Engineering has developed a customized spray train to keep leaf residue off the rails in the fall foliage season; added critical snow clearing equipment and innovative procedures to keep winter service dependable, as evidenced this past winter; installed more reliable information boards for customers at both North and South Stations; and developed an Improvement Proposal in collaboration with ARCADIS, our environmental subcontractor, that entails the installation of solar panels on the roof of the CRMF to power the facility.

The Engineering Department is moving to become a more data-driven organization utilizing analysis and detailed records to implement preventative maintenance, and prioritize capital needs. Like all departments, the Engineering Staff will be receiving training in Quality Management, and Six Sigma Lean Methods. This effort will be supported by an Engineering Planning Team, Trapeze EAM linear asset management system, new work scheduling software, and hand-held devices for efficient field reporting of inspection, and asset condition data. MBCR's unmatched experience allows us to direct

infrastructure improvement and replacement plans at the locations where they will have the most impact on system safety and performance. For example, we will make the Worcester line a priority in years 1 and 2 for the tie replacement plan. The planning team will schedule work to coordinate the maintenance and inspection activity of all functional divisions within Engineering, synchronizing work windows and track outages to improve productivity and reduce interruptions to scheduled train service. To further improve accountability and place supervision closer to the work, Engineering Department managers are now assigned geographically into specific zones with counterparts from Mechanical and Transportation.

Transportation Services – The MBCR Transportation Department has led the way in the MBTA Commuter Service becoming the safest commuter railroad through the first two quarters of 2013. Transportation shoulders much of the credit in producing the 78% reduction in passenger injuries and 50% reduction in transportation employee injuries, on time performance of 96.3% YTD, and customer complaints at their lowest point in history.

Our Transportation proposal improves productivity from our workforce, and increases utilization of the MBTA's equipment and physical plant. The full development of a model of the MBTA system in RTC software coupled with our ORTEC system for crew scheduling allows us to test optimization concepts for both labor and equipment. We will maximize the impact of the new coaches to better standardize train crews and equipment consists to support simpler scheduling and easier equipment swaps, resulting in more efficient utilization of both crews and equipment. This effort reflects our company wide effort to train our management staff in the use of data driven decision making tools and continuous improvement processes.

MBCR will continue the expansion of mobile ticketing in partnership with Masabi. Conductors will accept debit/credit cards on-board, scan paper and phone image tickets, and print tickets and receipts. The customer will be able to purchase tickets online and print them at home, resulting in greater payment flexibility, reduced cash handling, and the generation of useful ridership data and patterns. Our innovative Conductor Companion™ app developed by MBCR in 2012 provides conductors with real-time information at their fingertips, and provides easy access to all their FRA required documents. This tool is a first on any North American commuter railroad. We will acquire the necessary iPhones to fully roll out this program to all conductors in 2014.

We will purchase two locomotive simulators to train student engineers and refine the train handling skills of our current workforce. We are proposing the implementation of Driver Assist eTechnology, an on-board system that passively assists the engineer in operating their trains in the most fuel efficient method possible, while maintaining schedule adherence. This technology has been utilized by Veolia in Germany, and has the potential to save the MBTA millions annually in fuel costs.

We also propose to introduce Diesel Multiple Units (DMU's) to operate more frequent service from the stations closer to Boston, with increased express service from the more distant points -- a win for both the shorter and longer distance commuters, offering those closer to the city more frequent service and the commuter further away, a faster trip into the city. By-products will be new ridership on the frequent DMU service, and additional stations close in around the city. MBCR completed a study of the feasibility of this concept for MBTA, has an exclusivity agreement with the only FRA-compliant DMU supplier, and has made initial arrangements for financing the project.

We will deploy Veolia's proprietary Genius analytical software program to thoroughly analyze ridership trends to forecast how we can add customers and see the impacts of fare decisions and other factors that affect customer decisions to ride.

Customer Service (and Ridership Building) - MBCR created the first customer service department for Commuter Rail riders in 2003 and it has been a forceful advocate for the customer since its inception. Surveys tell us that over the years we have consistently increased customer satisfaction.

MBCR will fund the fabrication and installation of new poster displays at all stations with strong new designs and improved information layouts. As discussed above, with JustRide (Masabi), we will accept credit/debit cards on board and launch web-based ticketing and print-at-home options. To further enhance passenger information, we will roll out phase two of our innovative Conductor Companion™ app, and launch the new "Customer Companion" -- an information-rich mobile app to provide customers with everything they need to know when riding commuter rail, including real-time arrival times. MBCR will continue to provide customer information using multiple channels including social media, LED messaging, T-Alerts, station announcements, station posters, and RailMail with its 17,000 subscribers. We have customized a powerful social media management platform for Commuter Rail, called Digimind, which we use to both listen to and inform customers. We are launching an innovative new online portal to engage customers via a "virtual advisory group" to get their input on new initiatives and services, as well as our daily performance.

MBCR has a very strong track record maximizing fare collection and managing crowds during Special Event Service - all achieved with minimal complaints and zero safety issues. Our "Buy Before You Board" and "Flat Fare" programs have significantly increased revenue for the MBTA and we will continue our strong performance in managing special events. Our Customer Service team manages both planned and emergency service disruptions by sending expert customer service representatives to sites to give real-time information to passengers and assist with onward travel.

Our proprietary training programs are at the core of our well-trained, professional front line staff, and we are proud to have shared these with the MassDOT University. We will have new courses, training materials and fresh approaches going forward for all employees interacting with customers.

Our rollout of Veolia's Mystery Traveler program, which puts anonymous auditors on trains and deposits their assessments into a powerful back-end database, will augment our current quality programs and provide us valuable, independent feedback on our day-to-day performance from the customer's perspective. MBCR will establish a cross-departmental Service Improvement Leadership Team (SILT) to systematically utilize customer feedback in a continuous improvement process of execute-measure-analyze-revise. We are enhancing our current excellent Lost & Found performance with a new web-based tool allowing customers to enter information and describe lost items 24 hours a day/7 days a week.

Supplemental Appendix 5 contains an Improvement Proposal for a comprehensive marketing program to attract new riders and generate new revenue. It has a powerful research foundation and was developed in partnership with Hill Holliday, a leading Boston advertising agency. Our plan has compelling advertising and messaging, targeted marketing vehicles, a major focus on digital media, and a rigorous measurement plan.

To further build revenue, our Improvement Proposal will focus on converting 10-Ride purchasers to monthly pass holders, promoting mTicket, and using Special Event Service to promote riding more often. We will deploy a wide variety of methods to educate and support new riders to convert them to regular riders. These actions are based on a rigorous New Rider Research Study and a large Mobility Survey we conducted in which respondents described barriers they felt would prevent them from being more frequent customers. All of these tools have given us great insight into why people ride commuter rail, and more importantly, why they do not. We will also attract and keep riders with

an exciting new loyalty program and app called Purple+ that will reward customers for time spent on the train and is also part of our Improvement Proposal in Customer Service Appendix 5.

All of MBCR's marketing activities will be closely supported and overseen by two seasoned marketing professionals at no additional cost to MBCR or the MBTA. Ruth Otte leads Veolia Transportation's marketing and communications effort, and brings 25 years of experience developing some of the most successful brands in television, media and consumer products. She was President of The Discovery Channel for its first nine years, building the brand from relative obscurity to industry prominence. For the international perspective, Marielle Villamaux is Global Vice-President of Corporate Marketing for Veolia, developing and leading marketing programs and campaigns for Veolia's contracts in 21 countries. Prior to joining Veolia in 2002, she held a number of senior roles in the leading global advertising agency RSCG and then Euro RSCG, (now Havas Worldwide) in both France and Hong Kong. She is a well-known innovator and thought leader in the marketing of passenger transportation and digital mobility services. They will collaborate with our local team and the MBTA in this important new set of initiatives.

Information Technology Plan – MBCR's IT Department has supported and worked in close partnership with the MBTA to accomplish many significant projects including: the Passenger Train Information System for customers; the TRMS II system for performance monitoring; the Charlie Card implementation at ticket offices; the nation's first commuter rail on-board Wi-Fi system; the deployment of the Parature Customer Relationship Management System; the smart-phone Conductor Companion that provides conductors with additional passenger information; and many more.

Our IT Department is prepared for its expanded role in providing the necessary system support for the MBCR's transition to expanded data storage and analysis, as well as providing the MBTA with the system and data support required for the effective management of the contracted services. MBCR will co-locate our data center to a Boston based SSAE-16 compliant facility for enhanced security, and create a Service Center with problem tracking software for user support. Our staff will receive additional training and certifications in accordance with ITIL and PMI. We will increase our transparency through our new Issue Tracking Portal, and our new digital repository will make all information available to authorized MBTA and MBCR personnel at all times. We will upgrade and expand the functionality of the Trapeze EAM system to support the new data and analytic requirements of the MBCR, and the access and reporting requirements of the MBTA.

Disadvantaged Business Enterprise Plan – MBCR has over 10 years of experience in the successful engagement of DBE contractors. We have aggressively recruited and engaged disadvantaged firms into our business, resulting in an MBCR Fiscal 2013 achievement of 18.3% DBE participation rate, far exceeding the 11.5% goal for the current contract and 15% for the new contract. We have demonstrated our commitment to assisting traditionally underutilized businesses in the region by creating the full time position of Chief Equal Opportunity & Diversity Officer to recruit and assist DBE firms, and by doubling the amount of business contracted to DBE firms.

Our plan for MBCR 2.0 is to sustain our success and introduce new best practices including the expansion of recruitment using on-line media, continuing to encourage prime contractors to subcontract and mentor DBE firms; expanding training for MBCR managers involved in contracting goods and services; promoting our new on-line registration for DBE firms to receive notification of opportunities; and engage National Insurance Consultants, Inc., an experienced MBE firm, to assist DBE's with bonding, capital assistance, insurance, and accounting training. Our proven commitment to the recruitment and use of DBE firms, coupled with our approach to continually innovate and improve the program, ensures our ability to exceed MBTA's goal of 15% participation.

Equal Employment Opportunity Plan – MBCR has driven workforce diversity to the highest levels in recent history. We have nearly doubled the number of diverse employees in the workforce from that of our predecessor, moving from 15.1% in 2003 to our current rate of 29.2%. This success has been achieved through an early and deep commitment and holding our managers accountable for results.

In 2003, MBCR created an Equal Opportunity and Diversity Department and established a Workforce Diversity Advisory Council (WDAC) with labor and management representation. MBCR also initiated two in-house career development programs aimed at providing female and minority employees with the skills necessary for promotion. The initial program provided mentorship and training to female and minority employees, reviewing skills required to succeed at the next level of management. As a result, several accepted promotion to those positions to which they had been mentored to assume. We also developed a pilot project focused on the advancement of women in the traditionally male dominated rail industry. This program paired women with supportive and experienced manager-mentors who ensured candidates received the training and mentoring necessary to advance. As a direct result, women have been promoted into the non-traditional positions of conductor, locomotive engineers as well as into various management roles. This progress was recognized by the Conference of Minority Transportation Officials with its "Business Partner of the Year" award.

We will take these efforts to the next level through the expansion of our mentorship program, our partnership with the Urban League of Eastern Massachusetts, and the Cristo Rey School internship program for disadvantaged youth; through continued participation at community events for the recruitment of minority, women, disabled, and veteran candidates, and through the expansion of our successful pilot programs that identify and develop potential candidates of diversity for internal advancement opportunities.

Mobilization – As the incumbent, we have the infrastructure in place to continue managing the MBTA's assets and providing first-class service to our customers. In 2003, we conducted the transition from Amtrak without interruption. There was no disruption in service between the last day of Amtrak and the first day of MBCR. For us, transition will mean the launch of the many initiatives to which we have committed in this proposal and the continuation of the performance trend and technological advancement path that we are already on. Moreover, we plan to take advantage of the Mobilization Period, to introduce the improvements that will make our operations more cost efficient, effective, and satisfying to our customers. There are detailed descriptions of all improvement initiatives throughout the sections of this proposal, however the following represent some of the major initiatives that MBCR will introduce to the Commuter Rail Service by day one of the next contract period: a full launch of our Conductor Companion application and iPhones, implementation of World Class Operations & Maintenance (WCO&M) and enhanced Lifecycle Maintenance, upgrades to our Enterprise Asset Management system (Trapeze), a web-based Lost and Found tool for customers, and a company-wide mentoring/success program.

Quality Assurance Plan – Building on our Quality Assurance Plan (QAP) is critical for achieving MBTA objectives and delivering superior safety, customer service, and reliability. MBCR built its QAP based on world-class, state-of-the-art practices such as Quality Management Standards outlined in ISO 9001 and the FTA's QA and QC Guidelines. Combined with analysis of industry best practices and national standards, MBCR put in place a set of principles that focus on ensuring safety, customer satisfaction, fiscal responsibility, and a KPI-driven approach to system-wide improvement. Our quality approach applies to every department and every aspect of our operations. Specific initiatives are found in each proposal section. The QAP will be continually enhanced. All senior managers will be trained in the principles of Quality Management and 6 Sigma Lean Methods

Here's the Bottom Line

MBCR and the MBTA have come a long way in the past ten years. We have rebuilt and improved many parts of the system, expanded and improved the travel experience, made significant and important strides in diversifying our workforce and the use of DBEs and created a safer working and traveling environment. We've worked hard to be a good corporate citizen by reaching deep into the community to provide opportunity to those persons and businesses that are at a disadvantage; to teach the young about careers in transportation; to improve the environment; to help a city celebrate with special trains, and to be dependable in good weather and bad, and to be there for you.

While our focus is on driving commuter rail service to industry-leading levels, we know not all aspects of our service have yet achieved the levels to which we aspire. We have already begun the process of transitioning how we are organized, and how we manage and work, to insure that every single employee throughout our organization is pulling in the same direction, engaged in our goals, KPIs, and quality plans. We will continue to have high expectations of managers (as you should of us), make decisions with data, and provide the necessary tools and resources to accomplish our goals.

We will invest in new programs, equipment, unique customer service tools like Customer Companion and new signs at all stations. With your agreement, we will invest in and finance a new maintenance facility, DMUs, a creative marketing program, and a phone app to build loyalty and revenue -- all consistent with our collective vision for the future. At the end of the day, we leave you with these commitments:

- **Safety will be the first and the last consideration always** and every team member knows it.
- **Everything we do will be about the customer** and continuing to improve their experience. We will treat our customers with respect and we will provide marketing, promotion, and service quality that encourages ridership. We will find new ways to make their lives easier.
- **We will attract new riders** by introducing incentives to come aboard and stay aboard.
- **We will meet the requirements of your RFP** to the letter and our proposed modifications offers you alternatives to save even more money and/or improve quality.
- **We are providing a price that is realistic**. We will stretch your dollars to the limit while we provide the service and set the standard for commuter rail in North America.
- **We will continue to compensate our employees** fairly and we treat them fairly. We will not seek short-term savings at their expense.
- **We will continue to innovate.** We will put in place powerful innovations and new practices.
- **We will rarely make mistakes** but if we do, we will fix them quickly and learn from them.
- **We will bring positive change and continual improvement but without the risk.** We can say this with certainty, because we know this service, we know the customers, we know the workforce, we know your stakeholders, and we know the costs. At the same time, we are bringing positive change with significant new initiatives and ways of thinking and acting.
- **We are the home town team.** Most of us are from here and grew up here. We know the city and the surrounding towns, we know the labor force, we know the climate, we know the customers, and we know what it takes to succeed here.
- **We are you**. You have entrusted us with your most important asset – your name. We wear it on our uniforms and it displays on the trains we operate and care for. We know that we represent you every day. We will always do what good partners do – support you, be your resource, strengthen your brand, and be at your side during good times and challenging ones.

With the unique challenges facing one of the top U.S. commuter rail systems, there is not a more committed, able, innovative, and experienced group of commuter rail professionals to run the MBTA system anywhere in the world than is found right here, right now, in Boston, in MBCR.

Section 1

Legal Pass/Fail Evaluation Factor Information

MBCR

FORM OF PROPOSAL

PROPOSAL OF Massachusetts Bay Commuter Railroad Company, LLC

NAME Ronald J. Hartman TELEPHONE (617) 222-8022

ADDRESS 89 South Street, 8th Floor, Boston, MA 02111

TO THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY:

The undersigned proposes to perform the Contract in accordance with the Contract Documents and for the price as stated in the Financing/Price Proposal. The undersigned also certifies that it has examined the site of the proposed work and the assets subject to the Contract and the Request for Proposals (RFP) before submitting the Proposal and is satisfied as to the requirements therein. As further consideration for the Award of this Contract, the undersigned agrees to the following terms, conditions, and acknowledgments:

A) To execute the Contract and to furnish the irrevocable letter of credit in the amount specified in the Contract and, failing to do so, the Massachusetts Bay Transportation Authority (MBTA) may proceed to award the Contract to others.

B) To furnish the parent company guarantees set out in the Contract as surety conditioned for the full, complete, and faithful performance of this Contract.

The Proposer acknowledges receipt of the following Addenda to the Request for Proposals:

Number	Date	Number	Date
No. 1	12/21/13	No. 7	5/28/13
No. 2	1/28/13	No. 8	5/31/13
No. 3	2/4/13	No. 9	6/12/13
No. 4	3/15/13	No. 10	6/28/13
No. 5	4/22/13	No. 11	7/17/13
No. 6	5/17/13	No. 12	7/26/13

The Proposer agrees that its Proposal will remain valid for 180 calendar days following the Proposal due date.

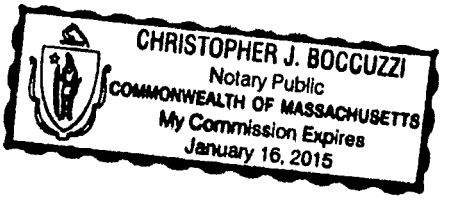
Organization: Massachusetts Bay Commuter Railroad Company, LLC

By: Ronald J. Hartman

Title: Director

STATE OF Massachusetts)
) ss
COUNTY OF Suffolk)

SUBSCRIBED AND SWORN TO ME ON THIS:
1st DAY OF August, 2013



NOTARY PUBLIC

My Commission Expires: January 16, 2015

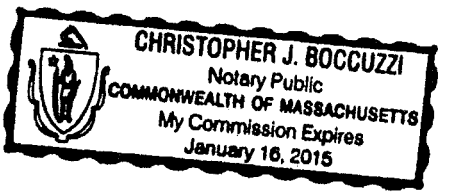
Organization: Veolia Transportation, Inc.

By: Ronald J. Hartman

Title: Executive Vice President, Rail Division

STATE OF Massachusetts)
) ss
COUNTY OF Suffolk)

SUBSCRIBED AND SWORN TO ME ON THIS:
1st DAY OF August, 2013



NOTARY PUBLIC

My Commission Expires: January 16, 2015

Organization: Bombardier Transit Corporation

By: Thomas F. Faber THOMAS F. FABER

Title: BUSINESS DEVELOPMENT & SALES EXECUTIVE

PROVINCE OF Quebec)
) ss
COMTÉ OF Longueuil)

SUBSCRIBED AND SWORN TO ME ON THIS:
31st DAY OF July, 2013

Suzanne Bérubé
NOTARY PUBLIC

My Commission Expires: August 1st, 2014

Organization: Bombardier Transit Corporation

By: JULIE TURGEON

Title: VP, CONTRACTS & LEGAL AFFAIRS

PROVINCE OF Quebec)
) ss
COMTÉ OF Longueuil)

SUBSCRIBED AND SWORN TO ME ON THIS:
31st DAY OF July, 2013

COMMISSIONER FOR OATHS
SUZANNE BÉRUBÉ
77 064
ALL JUDICIAL DISTRICTS OF QUEBEC

Suzanne Bérubé
NOTARY PUBLIC

My Commission Expires: August 1st, 2014

Organization: Alternate Concepts, Inc.

By: [signature]

Title: President / Partner

STATE OF Massachusetts)
) ss
COUNTY OF Suffolk)

SUBSCRIBED AND SWORN TO ME ON THIS:
1ST DAY OF August, 2013

CHRISTOPHER J. BOCCUZZI
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
January 16, 2015

[signature]
NOTARY PUBLIC

My Commission Expires: January 16, 2015

FORM NS
NAMED SUBCONTRACTORS

Proposer Name: Massachusetts Bay Commuter Railroad Company, LLC

Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
A-1 Exterminators Gary B. Weisberg, President,	183 Shepard Street Lynn, MA 01903	Tel: (781) 592-2731 Fax: (781) 592-7641 gweisberg@alexterminators.com	0.01%	MWRA Gino Rizzo (617) 799-5689 Gino.Rizzo@mwra.com	Boston Housing Lori Luce (617) 988-5215 Lori.luce@bostonhousing.org
AECOM Robert W. Pittman	66 Long Wharf Boston, MA 02110	Tel: (617) 994-6209 Fax: (617) 723-6896 Robert.Pittman@aecom.com	Unknown at this time – Pending MBTA review and approval	MBTA Green Line Extension Final Design Mary Ainsley, Senior Project Manager (617) 222-6124 MAinsley@MBTA.com	MBTA Orient Heights Yard and Maintenance Facility John Favorito, Senior Project Manager Office: (617) 222-4330 Cell: (617) 780-0459 Jfavorito@mbta.com
All And Inclusive Environmental, Inc. Deb Qua	201 Main St. Suite 2B Charlestown, MA 02129	Cell: (617) 828-1407 Fax: (207) 985-7603 QuaME44@aol.com	0.06%	MBTA Robert McLaughlin (617) 222-4617 rmclaughlin@mbta.com	Boston University Mike Lyons (617) 353-4944 milyons@bu.edu

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Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
Arcadis Michael Clarke	200 Harvard Mills Square Suite 430 Wakefield, MA	Tel: (781) 224-4428 Fax: (720) 344 3535 Michael.Clark@arcadis-us.com	0.71%	MBTA Environmental On Call Contract Andrew D. Brennan, Director of Environmental Affairs (617) 222-3126 ABrennan@mbta.com	MBTA Construction Claims On Call Contract Edmond F. Hunter, Assistant General Manager for Design and Construction (617) 222-3117 EHunter@mbta.com
ARINC Surface Transportation Systems Eric S. Pelli, PMP	5551 Riva Road Annapolis, MD 21401	Tel: (410) 266-2358 Fax: (410) 266-2329 epelli@arinc.com	0.03%	NJT Newark Light Rail Control Center System Replacement Kerry Donovan kdonovan@njtransit.com (973) 491-7332	MBTA, Contract CAP 23007 Bob Walsh bwalsh@mbta.com (617) 222-5426
Atlantic Elevator Service Tom Dambrosio	Avon Industrial Park 180 Bodwell Street Avon, MA 02322	Tel: (800) 322-3538 Fax: n/a tdambrosio@atlanticelevator.com	0.02%	Babcock Towers Deborah Allen (617) 783-2012 dallen@franchimanagement.com	Intercontinental Management Paul Charos (617) 782-9442 paulc@intercontinental.net
Clean Harbors David Batogowski	42 Longwater Drive, Norwell, MA 02061	Tel: (339) 788-0759 Fax: (781) 380-7194 batogowskid@cleanharbors.com	0.01%	Massport Patrick Minihane (617) 568-3696 pminihane@massport.com	MBTA Timothy Dockery (617) 222-3294 tdockery@mbta.com

Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
Corporate IT Solutions Dan Murray	661 Pleasant St. Suite 200 Norwood MA 02062	Tel: (781) 501-5750 Fax: n/a dmurray@corpitsol.com	Unknown at this time -Pending MBTA review and approval of IT plans	Patrick Alfieri, Massachusetts District Attorneys Association (617) 305-7045 Patrick.Alfieri@state.ma.us	Global Technology Systems Laurie Simon (800) 267-2711 lsimon@gtspower.com
East Coast Petroleum Ms. Loretta DeGrazia	1185 Turnpike Street Stoughton, MA 02072	Tel: (781) 297-7030 Fax: (781) 318-5858 ltd@eastcoastpetroleum.com	0.16%	Commonwealth of Massachusetts Jim Ferri (617) 727-0168 james.ferri@osd.state.ma.us	Massachusetts Institute of Technology Pat Magner (617) 593-2960 pmagner@plant.mit.edu
Harvard Pilgrim Health Care Paul Lazar	93 Worcester Street, Wellesley MA 02481	Tel: (617) 509-2636 Fax: (617) 509-2515 Paul_lazar@harvardpilgrim.org	0.04%	Kathleen Green Director of Health Benefits City of Boston (617) 635-4570 Kathleen.Green@cityofboston.gov	Jayne Hyde Town of Burlington (781) 270-1622 Jhyde@burlmass.org
HDR, Inc. Kathleen Duggan	695 Atlantic Avenue Boston, MA 02111-2626	Tel: (617) 357-7700 Fax: (617) 357-7759 kathy.duggan@hdrinc.com	0.06%	MBTA Inspection & Repair Design of the Charles River Bridge at Grand Junction (Ongoing) Prasun Sen (857) 321-1756 psen@mbta.com	MassDOT On-Call Rail Oversight Services (Ongoing) MassDOT Chalita Belfield (617) 973-7405 Chalita.Belfield@state.ma.us

Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
Hill Holliday Gayle Nyre	53 State Street Boston, MA 02109	Tel: (617) 366-4230 Fax: n/a gayle.nyre@hhcc.com	Unknown at this time – Pending MBTA review and approval of marketing plan	Bank of America Meredith Verdone SVP (617) 4340-7451 meredith.verdone@bankofamerica.com	Dunkin' Donuts John Costello Chief Marketing Officer (781) 737-3300 john.costello@dunkin'brands.com
iCorps Technologies Dan Bosley	529 Main Street, Suite 1M16 Boston, MA 02129	Tel: (617) 868-2000 Fax: n/a dbosley@icorps.com	0.02%	Esquire Bank Evan Blatter (516) 535-2002 Evan.Blatter@esqbank.com	Corcoran Jennison Chris Stephenson (617) 413-3353 cstephenson@corcoranjennison.com
J. Mikulsky Railway Supply Co. JoAnn Mikulsky	2 Industrial Drive Readville MA 02136	Tel: (610) 370-1442 Fax: (610)370-2294 joann@mikulskyrail.com	0.39%	Jan Hagan MBTA (617) 222-5655 Jhagan@mbta.com	George Moore Amtrak (215) 349-4944 moorege@amtrak.com
Keville Enterprises, Inc. Christine Keville	475 School St., Suite 11 Marshfield, MA 02050	Tel : (781) 837-3884 Fax: (781) 837-4091 ckeville@keville.com	0.08%	MassDOT Project Controls Services for the Accelerated Bridge Program Isidoro Perez, Deputy Administrator (857) 368-8784 isidoro.perez@state.ma.us	MBTA Claims Management Services Horace Cooper, PSP, CCM, CPE, PMP, Director of Project Controls (617) 222-5910 hcooper@mbta.com

Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
LM Heavy Civil Construction, LLC Thomas Le	100 Hancock Street Suite 901 Quincy, MA 02171	Tel: (617) 845-8000 Fax: (617)845-8041 Email: tle@lmheavycivil.com	0.01%	MBTA Littleton Station, MBTA Ed Hunter (617) 222-3117 ehunter@mbta.com	Market Street at Lynnfield Cranshaw Construction Robert Lyons, Jr. (617) 559-5204 BLyons@Cranshaw.com
LORAM Maintenance of Way Lisa. L. Lindquist	3900 Arrowhead Dr. P.O. Box 188 Hamel, MN 55340 USA	Tel: (800) 328-1466 Fax: n/a Lisa.L.Lindquist@loram.com	Unknown at this time – Pending MBTA review and approval of Engineering plan	Dallas Area Rapid Transit (DART) Michael Holbrook Senior Manager of Track and Right of Way (214) 928-6239 mholbrook@dart.org	Metro Transit of St. Louis (Metro) Kelly Hamm Director of Maintenance of Way Technical Support (314) 982-1400 ext. 1680 khamm@metrostlouis.org
Masabi Ltd Josh Nicklin	56 Ayres Street, London SE1 1EU	Tel: +44 0207089 8860 Fax: n/a 861ben@masabi.com	Unknown at this time – Pending MBTA review and approval of Customer Service Plan	First Group Ian Legg +44 207 713 2101 ian.legg@firstgroup.com	MBTA Gary Foster (617) 222-1905 gfoster@mbta.com
Meridiam Infrastructure Joe Aiello Partner and Board member	605 3rd Ave. New York, NY 10158	Tel: (212) 798-8681 Fax: (212) 798-8690 j.aiello@meridiam.com	Unknown at this time – Pending MBTA review and approval of South Side Commuter Rail Maintenance	Port of Miami Tunnel; FDOT Gus Pego, Project Manager (305) 470-5197 Gus.Pego@dot.state.fl.us	Long Beach Courthouse; AOC Clifford Ham, Project Manager (415) 865-4043 clifford.ham@jud.ca.gov

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Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
			Facility Improvement Proposal		
Metrick Manufacturing Company Marlene J. Kohr	142 Bedford St. Woburn, MA 01801	Tel: (781) 935-1331 Fax: (781) 932-6697 marlene.metrick@metrickmet.com	0.19%	Comcast Mr. Raymond Roy (603) 458-2603 Raymond_Roy@cable.comcast.com	MBTA Mr. Frank Scabin (617) 222-5059 FScabin@MBTA.com
MotivePower, Inc. Richard M. Brilz	4600 Apple Street Boise, ID 83716	Tel: (208) 947-4969 Fax: (208) 947-4820 rbrilz@wabtec.com	0.06%	Utah Transit Authority Bryan Sawyer, Manager of Technical Services (801) 287-5410 bsawyer@rideuta.com	Port Terminal Rail Association (PTRA)- Houston Jeff Norwood, General Manager (713) 393-6500 jnorwood@ptra.com
National Insurance Consultants, Inc. (NICI) Herman Ross	8687 W. Sahara Ave. Suite 200 Las Vegas, Nevada 89117	Tel: (702) 696-9586 Fax: (702) 696-9899 hr@niciinsure.com	0.01%	Chet Mitrani, ARM Executive VP Willis Construction Practice leader (972) 715-6230 chet.mitrani@willis.com	Daniel G. Bancroft Sr. Vice President Willis Transportation Practice (800) 606-4996 daniel.bancroft@willis.com

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Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
Nobscot Supply Ms. Jodi Memmer-Seigal	P.O. Box 3270 Framingham, MA, 01705	Tel: (508) 788-6629 Fax: (508) 788-0456 nobscot@yahoo.com	0.09%	Rovic Inc./Hillyard Co. Kim Odoms (860) 646-3322 kodoms@hillyard.com	Longfellow Sports Club Caroline Donahue (508) 653-4633 longfellowkids@gmail.com
ORTEC Jeff Bailey	3630 Peachtree Rd NE Suite 800 Atlanta, GA 30326	Tel: (404) 736-9800 Fax: (404)736-9801 Jeff.bailey@ortec.com	0.03%	SIRVA, Inc. Jesus Unzueta (260) 429-1973 Jesus.unzueta@ortec.com	Molson-Coors Michel Hetu (514) 598-6878 Michel.hetu@molsoncoors.com
RailWorks Track Services, Inc. Ed Kennedy President – Ohio Location Rob Gardner Area Manager – New England Location	1550 North Bailey Rd North Jackson, OH, 44451 181 Notre Dame St. Suite 2 Westfield, Ma 01085	Tel: (330) 538-2261 Fax: (330)538-2223 Cell: (330) 720-7945 ekennedy@railworks.cc NE Tel: (413) 579-0005 NE Fax: (413) 568-2189 Cell: (330) 720-5891 rgardner@railworks.coc	Unknown at this time – Pending MBTA review and approval of the Engineering Plan	Cleveland RTA Various projects Clark Smith, Construction Supervisor (216) 771-4018 csmith@gcrta.org	St. Louis Metro Various projects Scott Grott, Chief Of Operations (314) 486-4465 sgrott@metrostlouis.org

Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
RL Controls Ms. Lena Walsh	10V Gill St Woburn, MA 01801	Tel: (781) 932-3349 Fax: (781)932-3359 lena@rlcontrols.com	0.16%	MBTA Dave Barker Manager of Operations Technology (617) 222-5759 dbarker@mbta.com	MBTA Neoplan Overhaul Jeffrey D. Gonneville Chief Mechanical Officer MBTA Operations (617) 222-4554 JGonneville@MBTA.com
Roxbury Electric Cable and Conduit Company, Inc. Patricia Tierney	Mailing Address P O Box 136 Readville, MA 02137	Tel: (617) 364-8100 Fax: (617) 364-8101 roxburyelectric@verizon.net	0.05%	Service Wire, SEPTA Linda Phillips (215)580-8365 LPhillips@septa.org	Bridgewell Resources, Moulison North Linda Fredrick (207) 282-0759 linda@moulison.com
RW Davis Trucking Richard Davis	176 George St. Keene, NH 03431-2017	Tel: (603) 358-3702 Fax: (603) 352-3702 dickiedavis@ne.rr.com	0.03%	Railworks Track Services CSX Worcester MA Project (330) 720-5473 Robert Dedrick Rdedrick@railworks.com	Conway Scenic Railroad and Hobo Railroad P O Box 9 Lincoln, NH Ben Clark (603) 398-8720

Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
Smith Marine, Inc.	16 Anderson St. Marblehead, MA 01945	Tel: (781) 631-4800 Fax: (781) 631-4801 robin@smithmarineinc.com	0.04%	J.F. White Contracting Co. 10 Burr Street Framingham, MA 01701 Jim Clark (508) 879-4700 JCLARK@jfwhite.com	Moran Environmental Recovery John Silva (781) 815-1100 jsilva@moranenvironmental.com
Sperry Rail Mark Alves	46 Shelter Rock Road Danbury, CT 06810	Tel: (203) 791-4542 Fax: (203) 797-8417 malves@sperryrail.com	0.05%	Amtrak Joe Smak (215) 349-2749 smakj@amtrak.com	NYCTA Antonio Cabrera (718) 694-1131 Antonio.Cabrera@nycta.com
Sullivan and McLaughlin Companies Marc Pessa	74 Lawley St. Boston, MA 02122	Tel: (617) 474-0500 Fax: (617) 474-0505 info@sullymac.com	0.03%	MCCA all sites Electrical Testing and Maintenance Joseph Lally (617) 954-2456 JLally@massconvention.com	Massport (Logan) Electrical Testing and Maintenance William Sullivan (617) 561-1925 WSullivan@massport.com
Tools Unlimited, Inc. Steve Pires	PO Box 362 Stoughton, MA 02072	Tel: (781) 341-1188 Fax: (781) 341-2232 info@toolsunlimitedinc.net	0.14%	MBTA Judith Kidd 617-222-3058 jkidd@mbta.com	Boston Housing Authority Gary Vaillancourt 617-988-5127 Gary.vaillancourt@bostonhousingauthority.com
Trapeze Group Dale Mehta	5265 Rockwell Drive, Cedar Rapids, IA, 52402	Tel: (319) 743-1000 Fax: (319) 366-7406 Dale.Mehta@trapezegroup.com	0.68%	Port Authority of Allegheny County, PA Eric Bilsky (412) 255-1356 ebilsky@PortAuthority.org	Metropolitan Transit Authority of Harris County, TX Allen Smith (713) 635-4000 allen.smith@ridemetro.org

Subcontractor name/ contact	Address of head office	Telephone/facsimile/E-mail address	Percentage of proposed contract price	For two most recent contracts, list reference, telephone number, and E-mail address	
				Contract 1	Contract 2
Tubman Transit, LLC (a merger of Cofield Properties and Taylor Smith Properties) Juan M. Cofield	67 Montview Street West Roxbury, MA 02132	Tel: (617) 325-7580 Fax: n/a Jmcofield@aol.com	Unknown at this time – Pending MBTA review and approval of South Side Commuter Rail Maintenance Facility Improvement Proposal	The Steele Group John Steele (509) 962-2100 theteelegroup@gmail.com	Weld Management Company Denis Walsh, President (617) 367-3434 x226 Tubman Transit is a newly formed entity with an application underway with the Supplier Diversity Office for certification as a DBE and will contract with MBCR pending MBTA review and approval of South Side Commuter Rail Maintenance Facility Improvement Proposal.
UTCRAS, Inc. f/k/a UTC Rail & Airsources Ms. Betty Scott	17 Country Lane Malvern, PA 19355	Tel: (610) 983-0102 Fax: (610) 983-9744 airsources@aol.com	0.74%	DOC-Anniston Army Depot Jeremy Goldsmith (256) 235-6924 anadmwr@conus.army.mil	CAF USA, Inc. Joanne Davis (607) 737-3115 elmira@cafusa.com

The Commonwealth of Massachusetts

Secretary of the Commonwealth

State House, Boston, Massachusetts 02133

William Francis Galvin
Secretary of the
Commonwealth

July 8, 2013

TO WHOM IT MAY CONCERN:

I hereby certify that a certificate of registration of a Foreign Limited Liability Company was filed in this office by

MASSACHUSETTS BAY COMMUTER RAILROAD COMPANY, LLC

in accordance with the provisions of Massachusetts General Laws Chapter 156C on **October 9, 2002**.

I further certify that said Limited Liability Company has filed all annual reports due and paid all fees with respect to such reports; that said Limited Liability Company has not filed a certificate of cancellation or withdrawal; and that, said Limited Liability Company is in good standing with this office.

I also certify that the names of all managers listed in the most recent filing are: **MARK L. JOSEPH, MATTHEW BYRNE, DIDIER FREMAUX, RONALD J. HARTMAN, JAMES F. O'LEARY**

I further certify that the name of persons authorized to act with respect to real property instruments listed in the most recent filings are: **MARK L. JOSEPH, MATTHEW BYRNE, DIDIER FREMAUX, RONALD J. HARTMAN, JAMES F. O'LEARY**

In testimony of which,
I have hereunto affixed the
Great Seal of the Commonwealth
on the date first above written.

William Francis Galvin

Secretary of the Commonwealth

Processed By:PM

POWER OF ATTORNEY

MASSACHUSETTS BAY COMMUTER RAILROAD COMPANY, LLC, a Delaware limited liability company (the "Company"), by its undersigned duly authorized Director, hereby authorizes, constitutes and appoints Ronald J. Hartman, individually and with full power of substitution, as its true and lawful attorney-in-fact and authorized agent, in its name, place and stead to act for and in the name of the Company to execute, deliver, endorse and acknowledge all agreements, documents and certificates to be executed in connection with the Company's transactions with the Massachusetts Bay Transportation Authority (the "MBTA"), including but not limited to the MBTA's commuter rail procurement proposal and request for qualification and any contract between the Company and the MBTA, and in connection therewith, to act and serve as the Company's authorized agents to do all such acts and things as may be necessary or appropriate in order to carry out the business of the Company with respect to the MBTA.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company, by its undersigned Director, duly authorized, has executed this Power of Attorney this 15th day of July, 2013.

MASSACHUSETTS BAY COMMUTER RAILROAD COMPANY, LLC

By: _____
Name: James F. O'Leary
Title: Chairman, Board of Directors

COMMONWEALTH OF MASSACHUSETTS
COUNTY OF Suffolk

In Boston, in said County and State, on the 15th day of July, 2013, before me personally appeared James F. O'Leary, to me known and known by me to be the person executing the foregoing instrument, and he acknowledged said instrument by him executed, to be his free act and deed.

_____
Notary Public
Name: Patrick V. Aufiero
My Commission Expires: March 16, 2018

PATRICK V. AUFIERO
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
March 16, 2018

MASSACHUSETTS BAY COMMUTER RAILROAD COMPANY, LLC

MEMBERS' STATEMENT OF JOINT AND SEVERAL LIABILITY

The undersigned hereby certify that they are all of the Members of Massachusetts Bay Commuter Railroad Company, LLC, a Delaware limited liability company (the "Company"), and that in such capacity each hereby agrees and certifies to the Massachusetts Bay Transportation Authority (the "MBTA") that each of the undersigned Members shall be jointly and severally liable with respect to the transaction of business by the Company with the MBTA and in connection with any failure of the Company to observe and perform any of the terms, covenants and conditions on the part of the Company to be performed or observed pursuant to or in connection with any agreement that the Company may enter into with the MBTA, including that certain Commuter Rail Procurement contract.

[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned Members have set their hands this 17th day of July, 2013.

MEMBERS:

VEOLIA TRANSPORTATION, INC.

By: _____
Name: Mark A. Joseph
Title: Vice Chair, C.E.O., President

BOMBARDIER TRANSIT CORPORATION

By: _____
Name: THOMAS F. FABER
Title: Business Development/Sales Executive

By: _____
Name: Julie Gordon
Title: Vice President, Contracts & Legal Affairs

ALTERNATE CONCEPTS INC.

By: _____
Name: John F. O'Leary
Title: President

POWER OF ATTORNEY

ALTERNATE CONCEPTS INC., a Delaware corporation (the "Company"), by its duly authorized President, hereby authorizes, constitutes and appoints JAMES F. O'LEARY, individually and with full power of substitution, as its true and lawful attorneys-in-fact and authorized agent, in its name, place and stead to act for and in the name of the Company, acting singly, to execute, deliver, endorse and acknowledge all agreements, documents and certificates to be executed by the Company in its capacity as a member of Massachusetts Bay Commuter Railroad Company, LLC, a Delaware limited liability company ("MBCR"), including but not limited to any proposal submitted to the Massachusetts Bay Transportation Authority (the "MBTA") by MBCR, any contract between the MBTA and MBCR, and that certain Statement of Joint and Several Liability provided to the MBTA, and in connection therewith, to act and serve as the Company's authorized agents to do all such acts and things as may be necessary or appropriate in order to carry out the business of the Company with MBCR.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company, by its President, duly authorized, has executed this Power of Attorney this 2nd day of July, 2013.

ALTERNATE CONCEPTS INC.

By: _____
Name: James F. O'Leary
Title: President

COMMONWEALTH OF MASSACHUSETTS
COUNTY OF Suffolk

In Boston, in said County and State, on the 2ND day of July, 2013, before me personally appeared James F. O'Leary, to me known and known by me to be the person executing the foregoing instrument, and he acknowledged said instrument by him executed, to be his free act and deed.

CHRISTOPHER J. BOCCUZZI
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
January 16, 2015

_____
Notary Public
Name: Christopher Boccuzzi
My Commission Expires: January 16, 2015

POWER OF ATTORNEY

BOMBARDIER TRANSIT CORPORATION, a Delaware corporation (the "Company"), by its duly authorized representatives, hereby authorizes, constitutes and appoints the following named persons as its true and lawful attorneys-in-fact and authorized agent with full power and authority to act jointly, in its name, place and stead to act for and in the name of the Company. Any two of the attorneys-in-fact are hereby granted the authority to execute, deliver, endorse and acknowledge all agreements, documents and certificates to be executed by the Company in its capacity as a member of Massachusetts Bay Commuter Railroad Company, LLC, a Delaware limited liability company ("MBCR"), including but not limited to any proposal submitted to the Massachusetts Bay Transportation Authority (the "MBTA") by MBCR, any contract between the MBTA and MBCR, and that certain Statement of Joint and Several Liability provided to the MBTA, and in connection therewith, to act and serve as the Company's authorized agents to do all such acts and things as may be necessary or appropriate in order to carry out the business of the Company with MBCR.

	First Name	**Last Name**
1-	Matthew	Byrne
2-	Thomas	Martin
3-	Julie	Turgeon
4-	Eric	Bouchard
5-	Thomas	Faber

This Power of Attorney is valid until August 8, 2014 unless it is revoked by Bombardier Transit Corporation.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company, by its duly authorized representatives, has executed this Power of Attorney this 17 day of July, 2013.

BOMBARDIER TRANSIT CORPORATION

By: _____

Name: THOMAS F FABER
Title: Business Development & Sales Executive

By: _____

Name: Julie Tereceri
Title: Vice President, Contract & Legal Affairs

PROVINCE OF QUEBEC, CANADA
CITY OF ST Bruno

In St Bruno in said City and Province, on the 17th day of July, 2013, before me personally appeared the Company's duly authorized representatives, to me known and known by me to be the persons executing the foregoing instrument, and they acknowledged said instrument and executed, to be their free act and deed.

COMMISSIONER FOR OATHS
Jocelyne Boucher
181133
ALL JUDICIAL DISTRICTS OF QUEBEC

_____
Notary Public
Name: Jocelyne Boucher
My Commission Expires: March 22, 2015

POWER OF ATTORNEY

VEOLIA TRANSPORTATION, INC., a Delaware corporation (the "Company"), by its duly authorized President, hereby authorizes, constitutes and appoints RONALD J. HARTMAN and MARK JOSEPH, each individually and each with full power of substitution, as its true and lawful attorneys-in-fact and authorized agents, in its name, place and stead to act for and in the name of the Company, each acting singly, to execute, deliver, endorse and acknowledge all agreements, documents and certificates to be executed by the Company in its capacity as a member of Massachusetts Bay Commuter Railroad Company, LLC, a Delaware limited liability company ("MBCR"), including but not limited to any proposal submitted to the Massachusetts Bay Transportation Authority (the "MBTA") by MBCR, any contract between the MBTA and MBCR, and that certain Statement of Joint and Several Liability provided to the MBTA, and in connection therewith, to act and serve as the Company's authorized agents to do all such acts and things as may be necessary or appropriate in order to carry out the business of the Company with MBCR.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company, by its President, duly authorized, has executed this Power of Attorney this 1 day of July, 2013.

VEOLIA TRANSPORTATION, INC.

By: _____
Name: Mark L. Joseph
Title: President

STATE OF MARYLAND
~~COMMONWEALTH OF MASSACHUSETTS~~
COUNTY OF Baltimore

In Baltimore in said County and State, on the 1 day of July, 2013, before me personally appeared Mark L. Joseph, to me known and known by me to be the person executing the foregoing instrument, and he acknowledged said instrument by him executed, to be his free act and deed.

_____
Notary Public
Name: Deidra E. Hellwig
My Commission Expires: 02-23-2017

DEIDRA E. HELLWIG NOTARY PUBLIC BALTIMORE COUNTY, MD

#51157892.1

B2.2 (E) - Conflict of Interest Disclosure

Pursuant to Section B2.2(E) of Appendix B of the Commuter Rail RFP Instructions to Proposers, and consistent with the specifications set forth at Section 5.3 of the Instructions to Proposers, Massachusetts Bay Commuter Railroad Company, LLC states that no actual or potential organizational conflicts of interest exist in, or with respect to, its submission of this Proposal.

CERTIFICATION OF RESTRICTIONS ON LOBBYING

I, Ronald J. Hartman - Director, hereby certify
(Name and Title of Company Official)

on behalf of Massachusetts Bay Commuter Railroad Company, LLC that:
(Name of Company)

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying", in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers (including subcontracts, sub grants, and contracts under grants, loans, and cooperative agreements) and that all sub recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance is placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Executed this 3 day of July, 2013.

By Ronald J. Hartman
(Signature of Authorized Official)

Director
(Title of Authorized Official)

CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER INELIGIBILITY AND VOLUNTARY EXCLUSION FROM TRANSACTIONS FINANCED IN PART BY THE U.S. GOVERNMENT

This certification is made in accordance with Executive Order 12549, 49 CFR Part 29, 31 USC §6101 and similar federal requirements regarding debarment, suspension and ineligibility with respect to federally-funded contracts.

This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

> The certification in this clause is a material representation of fact relied upon by the Federal Transit Administration. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to the Federal Transit Administration, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

If the bidder or proposer is unable to certify to the statement above, it shall attach an explanation, and indicate that it has done so, by placing an "X" in the following space _____.

Ronald J. Hartman

Signature of the Bidder or Proposer Authorized Official

Massachusetts Bay Commuter Railroad Company, LLC – Ronald J. Hartman

Name and Title of the Bidder or Proposer Authorized Official

FEDERAL ID # 05-054-7924

7/3/2013

Date

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

Instructions for Certification

1. **By signing and submitting this bid or proposal, the prospective contractor is providing the signed certification set out below:**

"Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction"

(1) The prospective contractor certifies, by submission of this bid or proposal, that neither it nor its "principals" [as defined at 49 C.F.R. § 29.105(p)] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) When the prospective contractor is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this bid or proposal.

2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective contractor knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Massachusetts Bay Transportation Authority (MBTA) may pursue available remedies, including suspension and/or debarment.
3. The prospective contractor shall provide immediate written notice to the MBTA if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "persons," "lower tier covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 CFR Part 29]. You may contact the MBTA for assistance in obtaining a copy of those regulations.
5. The prospective contractor agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by the MBTA.
6. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List issued by U.S. General Services Administration.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under Paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, the MBTA may pursue available remedies including suspension and/or debarment.

BUY AMERICA CERTIFICATE

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

(Federally-assisted Contract)

SECTION (1); Certify only for IRON, STEEL, or MANUFACTURED PRODUCTS: ***(Mark One)***

☑ **CERTIFICATE OF COMPLIANCE WITH SECTION 165(a).** The offeror hereby certifies that it *will comply* with the requirements of Section 165(a) of the Surface Transportation Assistance Act of 1982, as amended, *and* the applicable regulations of 49 CFR Part 661.5;

--OR—

○ **CERTIFICATE FOR NON-COMPLIANCE WITH SECTION 165(a).** The offeror hereby certifies that it *cannot comply with* the requirements of Section 165(a) of the Surface Transportation Assistance Act of 1982, as amended, but it *may qualify for an exception* to the requirement pursuant to Section 165(b)(2) or (b)(4) of the Surface Transportation Assistance Act, as amended, and regulations in 49 CFR Part 661.7.

SECTION (2); Certify only for ROLLING STOCK and ASSOCIATED EQUIPMENT: ***(Mark One)***

☑ **CERTIFICATE OF COMPLIANCE WITH SECTION 165(b)(3.).** The offeror hereby certifies that it *will comply with* the requirements of Section 165(b)(3) of the Surface Transportation Assistance Act of 1982, as amended, and the applicable regulations of 49 CFR Part 661.11;

--OR--

○ **CERTIFICATE FOR NON-COMPLIANCE WITH SECTION 165(b)(3).** The offeror hereby certifies that it *cannot comply* with the requirements of Section 165(b)(3) of the Surface Transportation Assistance Act of 1982, as amended, but it *may qualify for an exception* to the requirement consistent with Section 165(b)(2) or (b)(4) of the Surface Transportation Assistance Act, as amended, and regulations in 49 CFR Part 661.7.

SECTION (3); OFFEROR'S SIGNATURE: *(Sign, date and enter your title and the name of your company)*

Ronald J Hartman — 7/3/2013

Signature — Date

Director

Title

Massachusetts Bay Commuter Railroad Company, LLC

Name of Company/Offerer

Affidavit of Non-Collusion

It shall be understood that any bid submitted to the MBTA is made without collusion with any other bidder submitting a bid on the same commodity/service, and is in all respects fair and without fraud.

STATE OF Massachusetts Date: 7/3/2013

COUNTY OF Suffolk S.S.

The undersigned being duly sworn, deposes and says that he is the

Director
(Sole Owner; Partner, President, Treasurer, or Other Duty Authorized Official of a Corporation)

of Massachusetts Bay Commuter Railroad Company, LLC
(Name of Firm as Appearing in Submitted Proposal)

and works in Boston, Massachusetts
(City/Town)

and certifies under penalties of perjury that this proposal is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

David J Heerman DIRECTOR
(Signature and Title of Person Making Affidavit)

Sworn to before me this 10 day of July, 2013

Notary Public:

My commission expires: March 16, 2018

PATRICK V. AUFIERO
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
March 16, 2018

Certification of Compliance with Regulation 102 CMR 12.00

DEPENDENT CARE ASSISTANCE PROGRAM INCLUDING CHILD CARE

The undersigned hereby certifies that the Bidder is in compliance with Section 7 of Chapter 521 of the Acts of 1990, as amended by Chapter 329 of the Acts of 1991, and the regulations issued pursuant thereto, 102 CMR 12.00, and that the Bidder is either a qualified employer having fifty (50) or more full time employees and has established a dependent care assistance program, or offers its employees child care tuition assistance or on-site or near site subsidized child care placements, or is an exempt employer.

BIDDER'S NAME: Massachusetts Bay Commuter Railroad Company, LLC

AUTHORIZED SIGNATURE: Donald J Hartman

TITLE: Director

DATE: July 3, 2013

Certification regarding Companies Doing Business with or in Northern Ireland

Pursuant to M.G.L. c.7, §§22C-F, the undersigned, being an authorized representative of the Bidder, hereby certifies under the pains and penalties of perjury that (check applicable item):

1. ✓ The Bidder does not employ ten or more employees in an office or other facility located in Northern Ireland.

2. ____ The Bidder does employ ten or more employees in an office or other facility located in Northern Ireland and certifies that:

   (a) ___ The Bidder does not discriminate in employment, compensation, or the terms, conditions and privileges of employment on account of religious or political belief; and

   (b) ___ The Bidder promotes religious tolerance within the work place, and the eradication of any manifestations of religious and other illegal discrimination; and

   (c) ___ The Bidder is not engaged in the manufacture, distribution or sale of firearms, munitions, including rubber or plastic bullets, tear gas, armored vehicles or military aircraft for sue or deployment in Northern Ireland.

3. ____ The Bidder does not certify to either 1 or 2. (a-c) above.

Signed under the pains and penalties of perjury this 3 day of July, 2013

BIDDER'S NAME: Massachusetts Bay Commuter Railroad Company, LLC

AUTHORIZED SIGNATURE: Donald J. Hartman

TITLE: Director

DATE: 7/3/2013

CONFIDENTIAL INFORMATION AGREEMENT

BY THIS AGREEMENT, effective _____, the Massachusetts Bay Transportation Authority (hereinafter "MBTA" or "Authority") and Massachusetts Bay Commuter Railroad Company, LLC (hereinafter "MBCR") agree as follows:

MBTA will provide certain Confidential Information related to the Commuter Rail Procurement to potential Proposers. MBTA will provide this information for use during the Proposal preparation period in written or electronic form. Similarly, the Proposer may create certain Confidential Information related to the Commuter Rail Procurement during the Proposal preparation period in written or electronic form, including photographs, plans, communications, and/or records exchanged during site visits.

"Confidential Information" includes proprietary or trade secret information, records relating to the security or safety of transportation infrastructure, other information submitted from or on behalf of any of the Proposers submitting Proposals in response to the Commuter Rail Procurement RFP, all deliberative procurement materials, and/or any other information that might be considered exempt pursuant to the Massachusetts Public Records Law. Any Confidential Information shall be identified as confidential by the MBTA in a timely manner.

During the Proposal preparation period, _will treat Confidential Information as such and agrees not sell, transfer, disclose, display or otherwise make available to anyone any part of such Confidential Information without prior written consent of the Authority. MBCR further agrees to limit access to Confidential Information to those of its employees, subcontractors, suppliers, and agents reasonably requiring access for the purposes of preparing a Proposal in response to Commuter Rail Procurement Request for Proposals, and who are obligated to treat the information in the way provided for herein with regard to confidentiality, use, and non-disclosure.

MBCR agrees to return or destroy in an MBTA-approved manner all Confidential Information at any time upon request by the MBTA.

This Agreement shall be effective for the proposal preparation period of _____ through _____, unless otherwise extended by the MBTA.

The foregoing is understood and agreed to.

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

By:_____

Title:_____

Date:_____

PROPOSER

Name: Massachusetts Bay Commuter Railroad Company, LLC

By: Ronald J. Hartman

(Ronald J. Hartman)

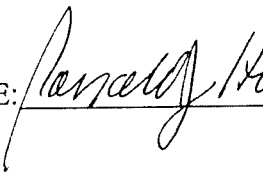
Title: Director

Date: 7/3/2013

CONFLICT OF INTEREST CERTIFICATION

The undersigned hereby certifies that the Bidder shall comply with Massachusetts Conflict of Interest Laws, G.L. c. 268A and with any Conflict of Interest terms stated in the Operating Agreement.

BIDDER'S NAME: Massachusetts Bay Commuter Railroad Company, LLC

AUTHORIZED SIGNATURE:  (Ronald J. Hartman)

TITLE: Director

DATE: 7/3/2013

MBTA RETIREE CERTIFICATION

In accordance with Section 3.3 of the MBTA Hiring of MBTA Retirees Policy dated June 5, 2009, THE CONSULTANT AND/OR CONTRACTOR IS REQUIRED TO NOTIFY THE MBTA THAT AN MBTA RETIREE HAS BEEN INCLUDED AS A MEMBER OF ITS TEAM.

Every consultant and/or contractor is required to notify the MBTA as part of the bidding process that an MBTA retiree will be included as a member of its team. The consultant and/or contractor shall be required to provide the name and date of retirement for each MBTA retiree on the team. Every MBTA retiree working for the MBTA under this condition shall do so in accordance with M.G.L., Chapter 268A, Section 5.

Project Name: RFP No. 159-12

Is a MBTA Retiree(s) presently included as a member of the team? Yes X No

If you responded "yes" to the above question, the Contractor certifies that the following MBTA Retirees are assigned to the team for this contract.

Firm Name (Please Print)	**Retiree Name**	**MBTA Retirement Date**
Massachusetts Bay Commuter Railroad Company, LLC	John P. Hogan Jr.	04/30/2008
	Robert Johnson	11/2000

Signature of Authorized Official: Ronald J. Hartman

Printed Name and Title: Ronald J. Hartman - Director

Company Name: Massachusetts Bay Commuter Railroad Company, LLC

Date: 7/3/2013

If additional space is required, please enclose attachments to be included with your proposal.

PROHIBIT USE OF UNDOCUMENTED WORKERS CERTIFICATION

The Bidder agrees to comply with Massachusetts Executive Order 481, which applies to all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established. As it is the policy of the Executive Branch to prohibit the use of undocumented workers in connection with the performance of state contracts, all contracts entered into after February 23, 2007 require that contractors, as a condition of receiving Commonwealth funds under any Executive Branch contract, make the following certification:

CERTIFICATION:

As evidenced by the signature of the Bidder's Authorized Signatory below, the Bidder certifies under the pains and penalties of perjury that the Bidder shall not knowingly use undocumented workers in connection with the performance of all Executive Branch contracts; that pursuant to federal requirements, the Bidder shall verify the immigration status of all workers assigned to such contracts without engaging in unlawful discrimination; and that the Bidder shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker(s). The Bidder understands and agrees that breach of any of these terms during the period of each contract may be regarded as a material breach, subjecting the Bidder to sanctions, including but not limited to monetary penalties, withholding of payments, contract suspension or termination.

Massachusetts Bay Commuter Railroad Company, LLC — Date: 7/3/2013
Company Name

Ronald J. Hartman
Bidder Authorizing Signature

Ronald J. Hartman
Print Name

Title: Director — Telephone: (240) 485-2114

Fax: (240) 485-2139 — Email: Ron.Hartman@Veoliatransdev.com

The Bidder is required to sign this Certification only once and may provide a copy of the signed Certification for any contract executed with an Executive Branch Department. A copy of this signed Certification must be attached to the "record copy" of all contracts with this Bidder that are filed with the contracting Department.

RIGHT-OF-WAY SAFETY TRAINING REQUIREMENTS CERTIFICATION

The undersigned hereby certifies that the Bidder, if awarded this Contract, shall be in full compliance with the MBTA Right-of-Way Safety Awareness Training Requirements as stated in the Operating Agreement.

BIDDER'S NAME: Massachusetts Bay Commuter Railroad Company, LLC

AUTHORIZED SIGNATURE: Ronald J Hartman (Ronald J. Hartman)

TITLE: Director

DATE: 7/3/2013

Right-To-Know Law Certification

The undersigned hereby certifies that the Bidder, if awarded this Contract, will fully comply with the Massachusetts Right-to-Know Law, Chapter 470 of the Acts of 1983 (the "Act"), including:

1. Obtaining a Materials Safety Data Sheet, (MSDS) for all substances or mixtures of substances that appear on the Massachusetts Substance List that the Contractor or any of its subcontractors brings to or uses on the work site and will keep a copy of that MSDS on the work site of this Contract.

2. Labeling each container of a substance or mixture of substances on the Massachusetts Substance List as required in Section 7 of the Act.

3. Providing the same training and non-technical instruction that the Contractor is required to provide under Section 15 of the Act to all MBTA employees who are exposed to the substance or to the mixture of substances. Training shall include instruction of the nature and effects of any substance or mixture of substances listed on the Massachusetts Substance List, which the Offeror or any of his/her subcontractors brings to or uses on the worksite.

4. Providing to MBTA employees on the work site the same protective equipment that the Contractor and its subcontractors provide to its employees.

BIDDER'S NAME: Massachusetts Bay Commuter Railroad Company, LLC

AUTHORIZED SIGNATURE: Ronald J. Hartman (Ronald J. Hartman)

TITLE: Director

DATE: 7/3/2013

SECURITY REQUIREMENTS CERTIFICATION

The undersigned hereby certifies that the Bidder, if awarded this Contract, shall comply with the MBTA's Security Requirements as stated in the Operating Agreement.

BIDDER'S NAME: Massachusetts Bay Commuter Railroad Company, LLC

AUTHORIZED SIGNATURE: Ronald J Hartman

TITLE: Director

DATE: 7/10/2013

Section 2

Safety Evaluation Factor Information

MBCR

Section 2 – Safety Evaluation Factor Information

Overview

1. MBTA Objectives

A. Integration of safety into all management, training and work plans

B. Clear plans to handle safety incidents and to develop accident reduction plans in partnership with the MBTA, regulatory authorities and municipalities

C. Plans and processes that ensure full compliance with all applicable laws, rules and regulations

During the first quarter of 2013, MBCR was ranked number one with the fewest Reportable Injuries and the lowest Accident Frequency Ratio (AFR) when compared to other Commuter Rail networks against which we measure our performance. We experienced the best first quarter performance posted since MBCR was established, with a 39% improvement over 2012. We maintain one of the lowest AFRs in the industry.

These results are derived from the culture MBCR has built over the last 10 years, where we have made safety a key component of all management practices, training programs and work plans. We stress that each MBCR employee is responsible for accident prevention, maintaining safety standards, and creating an atmosphere of cooperation and commitment that continually places maximum emphasis on safety.

We have built our comprehensive safety program over the course of the current partnership with MBTA. Working closely with the MBTA, we have successfully created a culture of safety through strong leadership and commitment to practices that stress safety at all levels.

We take pride in the safety record we have achieved and embrace the challenge of continuous improvement. Our mission is to continue to integrate safety into every element of the service, including system design, operations and maintenance.

The safety and security of customers, employees and residents of communities adjacent to our operation is the highest priority at MBCR. We have built a strong safety foundation that has allowed our team to consistently meet the MBTA's expectations and our goals.

Our experience and demonstrated skill in developing and executing comprehensive, detailed safety plans make us uniquely prepared to continue to meet the challenges of the upcoming contract term.

2. MBCR Key Achievements

Industry Best Practices

- MBCR's System Safety Program Plan (SSPP) was recognized in 2009 by the American Public Transit Association (APTA) as an Industry Best Practice. The MBCR SSPP is a comprehensive operating document that was developed in coordination with the MBTA to adhere to APTA guidelines and FRA regulations.
- In 2012, APTA gave MBCR special recognition for demonstrating continuous improvement as a direct result of the Internal Assessment Process included in the SSPP.
- MBCR is a member of the FRA's Clear Signal for Action Steering Committee. CSA is a risk reduction process that combines peer-to-peer feedback, continuous improvement and safety leadership development.

Accident/Injury Reduction through Partnership

- During our tenure, both customer and employee injuries have trended downward.
  - During the first quarter of 2013, MBCR was ranked number one with the fewest Reportable Injuries and the lowest Accident Frequency Ratio (AFR) compared to other Commuter Rail properties.
  - Since 2008, passenger injuries have trended down by 78%. From 2010 to 2012 employee injuries decreased by 30%.
- MBCR's Safety team focuses on accident/incident prevention through the mitigation of hazards in work plans, Roadway Worker Protection (RWP) and related safety training of employees and contractors, and clear directives outlined in the Emergency Preparedness Plan (EPP) on how to respond to accidents/incidents when on the system or in the workplace.
- Accident reduction plans are developed in partnership with the MBTA, regulatory authorities and municipalities. We also work with regulatory authorities and municipalities to ensure the highest standard of compliance and continual improvement.

MBCR's System Safety Program Plan requires RWP and Fall Arrest/Bridge Worker Safety training for crews that work on bridges.

Comprehensive Plans and Processes

- All of MBCR's safety plans including the System Safety Program Plan (SSPP), Hazard Identification, Emergency Preparedness Plan (EPP), Emergency Response Plan (ERP), Contingency Plan, System Security Plan (SSP), Incident Control Plan and Internal Safety Management Assessment Processes are developed internally. Each plan is reviewed and revised regularly and has functioned as the foundation for our solid safety record.
- Both internal audit systems and external audits such as those conducted by APTA ensure compliance and quality are integrated into the design and execution of all plans.

Emergency Preparedness Leadership

- In 2009, in partnership with the MBTA, MBCR became the first Commuter Rail operator in the U.S. to install Automated External Defibrillators (AEDs) on every Commuter Rail train. As part of the Emergency Preparedness Plan (EPP) crew members are trained in first aid and the use of AEDs.
  - The success of this training has been clearly demonstrated: in 2009, a team of MBCR employees saved the life of a customer who was in cardiac arrest at North Station. And again in 2011, a passenger who was in full cardiac arrest was saved by three MBCR managers through the use of an AED.

Professional Qualifications

Key members of MBCR's Safety and Security Department are World Safety Organization (WSO) certified professionals, responsible for supporting compliance and working proactively with all of the departments to minimize hazards. Each helps to develop and administer consistent and uniform safety training and programs.

3. MBCR Key Future Commitments

Looking ahead, our goal is to maintain MBCR's standing as a leader in safety throughout the Commuter Rail industry. The plans and approach outlined here will allow us to achieve that goal and further our safety practices on behalf of our customers and employees. Our future commitments in response to the MBTA's RFP requirements are summarized below.

Please Note: *This "T light bulb" icon will be used throughout this section, and the proposal, to identify our proposed innovations for the next contract period.*

Training

MBCR's goal is to have each Commuter Rail employee internalize safety as their top priority as they perform their job. In the upcoming contract, to further this goal, we will add new key training components:

- A Behavior-Based Safety Training module that focuses on reducing at-risk behaviors in the workplace through observation and feedback. Starting from the top, all organizational levels will contribute to building a safe work environment. Initially, management will be trained on how to prevent workplace accidents by observing workers in everyday operations and providing positive reinforcement or motivations for change. This will equip our leaders with the skills and knowledge to address safety consistently with employees which in turn will deepen our safety culture.
- Expanded National Incident Management System (NIMS) Training so that every employee or contractor who may be involved in handling an incident is clear about their role in managing the situation. NIMS provides clear protocols for managing emergencies, applying a consistent, nationwide approach for multiple agencies or jurisdictions to work together to build, sustain and deliver the core capabilities.

Accountability

As an industry leader, MBCR has initiated the process to fully participate in the Confidential Close Call Reporting System (C^3RS), a voluntary, confidential program for railroad carriers and their employees to report close calls without receiving disciplinary action. C^3RS allows all MBCR employees the ability to register any safety concerns in complete anonymity, thereby encouraging employees to report what they see so that it can be remedied.

Structured Approach to Changes and Updates

We are continuing to enhance our policies and programs to reflect changes identified through our System Change Identification and Control Process. This process focuses on the policies, procedures, techniques and tools used to manage and evaluate proposed changes, track the status of changes, and to maintain an inventory of system and support documents as the system changes. Applying this process to the new contractual safety requirements will allow MBCR to track and address the ripple effect of introducing new elements into our operations while maintaining the integrity of the system.

Accident/Injury Reduction

MBCR's Safety Excellence campaign "Stay Focused! Stay Safe!" reinforces the organization's goal of further reducing accidents and injuries. This campaign was developed as a result of an internal analysis that revealed that the biggest contributing factor to injuries and rules violations is employee distraction or loss of focus. This training instructs employees on how to recognize a loss of focus and provides mitigation strategies.

Day-In-The-Life *of* MBCR Safety

6:00 am
A Safety and Security Specialist updates the Daily Safety Data Report to distribute for 9 a.m. Daily Operations Call.

8:00 am
A Safety and Security Specialist conducts Safety Training: based on *Stay Focused! Stay Safe!* campaign.

11:00 am
The Director of Safety and Security assists the Chief of Engineering with policy and rule book review along with writing new policies for state and federal compliance.

1:00 pm
The Deputy Director of Safety and Security attends the Department Safety Committee meeting to discuss trends and issues based on the Internal System Safety Audit.

2:00 pm
The Director of Safety and Security meets with MBCR management to discuss and analyze incident / injury trends in an effort to reduce injuries.

3:00 pm
Safety and Security Director attends second Daily Operations Call with multiple departments to prepare for afternoon peak.

4:00 pm
The Deputy Director of Safety and Security attends the Meet the Manager session at South Station.

8:00 pm
A Safety and Security Specialist works with Transportation Managers to ensure Conductors are instructed on how to properly operate doors and traps safely.

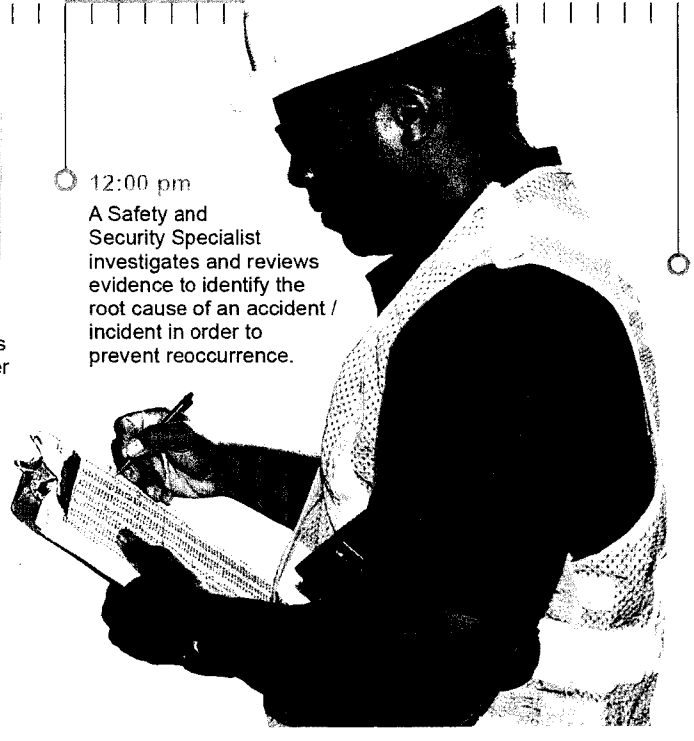
6:00 AM — **NOON** — **10:00 PM**

7:00 am
A Safety and Security Specialist observes crews using personal protective equipment and advises on Safety rules while working on right-of-way.

10:00 am
The Federal Reporting Officer reviews the Claims database to ensure proper reporting of injuries as federally required.

9:00 am
Safety and Security Director attends Daily Operations Call with multiple departments to review morning peak.

12:00 pm
A Safety and Security Specialist investigates and reviews evidence to identify the root cause of an accident / incident in order to prevent reoccurrence.



9:00 pm
The Deputy Director of Safety and Security advises a Transportation Manager on company policy and procedure, and interpretation if needed.

7:00 pm
A Safety and Security Specialist trains emergency responders on MBCR emergency procedures and equipment familiarization.

MBCR

Elements of the Safety Plan

2.A Safety Plan

MBCR has been an industry leader in Commuter Rail safety programs, establishing comprehensive safety and security guidelines and best practices, targeted training modules, regular safety audits and structured analysis of performance. We aim to attain the highest practical level of safety for the MBTA Commuter Rail system, protecting passengers, employees, revenue and property. Our commitment to safety has become increasingly proactive, as exemplified through our strong support and participation in APTA's System Safety and Security Management Programs. APTA's most recent audit of MBCR's Safety and Security Department acknowledged our improved safety performance through adherence to our System Safety Program Plan (SSPP), and commended MBCR for our coordination and oversight activities, and commitment to continuous improvement. MBCR's approved SSPP (which complies with the MBTA's SSPP), will serve as one of the main components of the Operator Safety Compliance Plan (OSCP) defined in Schedule 3.5 of the draft Operating Agreement.

MBCR's Safety and Security Department is organized to interact with the entire MBCR organization. This structure enables the department to maximize organization-wide compliance and to work with all departments to fully implement safety initiatives.

The following sections describe the key elements of the draft MBCR Safety Plan, which encompasses the OSSCP, Emergency Preparedness Plan, Emergency Response Plan and other MBCR system safety programs, plans, initiatives, rules, policies and directives. MBCR's Safety Plan works in conjunction with the MBCR Security Plan, which is more fully described in Section 3.A.

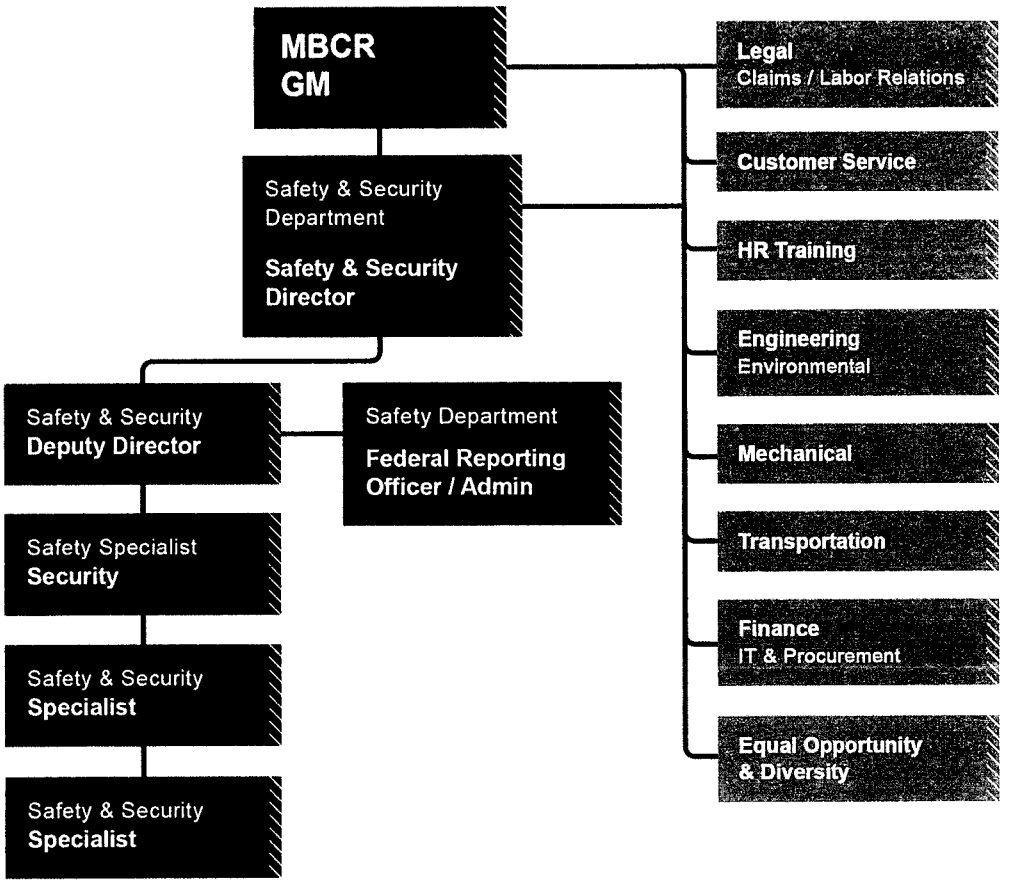
Reflecting our comprehensive approach to safety, MBCR's Safety and Security Department (illustrated on the following page) is organized to interact with the entire MBCR organization. This structure enables the Safety and Security Department to maximize organization-wide compliance and to work with all departments to fully implement safety initiatives. The existing structure has served us well, and we will maintain this same structure throughout the new contract as it has become the foundation of our high safety standards and strong performance.

2.A.1 Safety Training & Certification

Over the past 10 years, MBCR's Safety and Security Department has created the core training components that are used throughout the organization to integrate safety practices into all Commuter Rail operations. The Safety and Security Department has worked with MBCR's Training Department to develop the most relevant and appropriate courses in accordance with FRA, FTA, OSHA, MBCR and MBTA requirements, as well as APTA's Standard for Training of Rail Operations and Station Operations Personnel. Courses are customized for employees, contractors, MBTA personnel, and first responders, and focus on emergency situations as well as maintaining a safe and secure work environment, both out on the system and within offices and other facilities. Training efforts also extend to the surrounding communities with programs such as Operation Lifesaver that focuses on safe practices at grade crossings and near tracks.

We deliver several training programs dedicated entirely to safety, and oversee components that focus on safety and are incorporated into courses conducted by other departments. Our commitment going forward is to continue to build in additional modules and innovative approaches as the demands of the Commuter Rail industry continue to evolve, such as Behavior-Based Safety Training and enhanced NIMS training. Following the oversight chart on the next page are the current key safety training modules that help keep our customers, workers, and neighbors safe and secure.

Safety and Security Oversight Chart



Emergency Preparedness Training Program

As part of our Emergency Preparedness Plan (EPP) detailed fully in sections 2.A.6 and 3.B, all MBCR personnel whose responsibilities include responding to an emergency or who help to coordinate a response to an emergency situation undergo Emergency Preparedness Training. Local first responders such as police, fire and paramedics are also provided training so they may quickly and safely access property and equipment when assisting customers and employees during an emergency. MBCR distributes applicable portions of its Emergency Preparedness Plan to first responders when changes are made to the plan and issues an updated plan every two years.

On-Board Personnel: All on-board personnel (Engineers, Conductors and Assistant Conductors) and Control Center personnel are provided initial training on the requirements of the EPP so they are prepared to respond in the event of an emergency situation. They must be familiar with the necessary courses of action that each type of emergency situation dictates. The level and nature of the training is dependent on individual employee duties and responsibilities as required by their assigned position. Crew members are provided instruction on the location, function and use of on-board emergency equipment including first aid kits and Automated External

> *Acting Deputy Chief Charlie Breen, Somerville Fire Department, August 23, 2012* **"...I would like to thank your organization for the use of your facility to conduct a joint confined space rescue drill...the drill would not have been a success without it, it provided a realistic training experience for our department."**

Defibrillators (AEDs). Training is provided within 90 days of the initial date of service, with refresher training conducted every two years.

Emergency Responder Training: To prepare first responders, we proactively reach out to area fire departments, police departments and paramedics to offer training that familiarizes them with the right-of-way, in-service vehicles, internal communication leads and how to safely access the railroad during an emergency. Training consists of a combination of on-site drills, hands-on equipment familiarization, and practical and classroom instruction that provide an overview of:

- The railroad environment, railroad operations and emergency access to passenger car equipment
- Respective hazards and safety precautions, and the typical location of facilities and equipment
- Methods of communication between the Railroad Incident Commander (RIC) and emergency response protocol in compliance with NIMS

In the past seven years, MBCR has conducted a total of 2,423 training hours for 1,848 local firemen, police officers and emergency medical technicians from 39 different communities in the service area.

Roadway Worker Protection (RWP)

Roadway Worker Protection (RWP) training is designed to protect everyone conducting work on or near the right-of-way and meets requirements for 49 CFR Part 214. The Commuter Rail infrastructure requires periodic maintenance of track, switches, signals, traction power and other wayside equipment. In addition to these generally scheduled work activities, unscheduled emergency repairs of system elements that impinge on the right-of-way are also common. Both MBCR employees and contractors perform maintenance and repair work and complete training prior to the commencement of work. MBCR employees are fully trained and certified through RWP training and contractors are provided with the Contractor Safety Training course, including RWP if applicable. All attendees that successfully complete RWP training are issued a rail safety card and are instructed to carry the card at all times when in the MBTA Commuter Rail environment.

National Incident Management System (NIMS)

NIMS is a comprehensive national approach to incident management that provides a consistent nationwide approach to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity. The Incident Command System (ICS) within NIMS is used to organize a response to emergencies and defines protocols related to coordinating people and resources in these situations.

MBCR's operating personnel are currently participating in NIMS training. Going forward, NIMS training will be expanded to include additional MBCR employees and subcontractors with a direct role in emergency management, incident management or incident response. This training will prepare those attending for incident management and coordination among various federal, state and local agencies in response to natural disasters or terrorist attacks. This awareness training is also part of training for new hires.

Workplace Safety Workshop

MBCR's one-day Workplace Safety Workshop for MBCR managers seeks to enhance safety in the workplace, and ensure that all employees understand their roles and responsibilities. The workshop covers:

- The importance of workplace safety
- Factors that influence safety
- How to recognize unsafe work practices
- Observing and addressing safety concerns
- Removing roadblocks to employee safety
- How to communicate safety to employees

- How to report hazards
- How regulatory agencies impact safety within MBCR
- Planning safety in the workplace
- Job safety analysis
- How to carry out regular site inspections
- Security awareness
- Conducting an investigation
- Identifying root cause
- Injury/illness reporting in compliance with MBCR's Internal Control Plan

Behavior-Based Safety Training

Making safety a top priority for all employees at all times requires it be part of the organizational culture, and requires encouragement and modeling from the highest levels of the organization. Under the new contract, we will add a Behavior-Based Safety Training module. This tool will address safety concerns by examining employee behavior. We intend to start the implementation from the top, with plans to expand training to the entire workforce. Behavior-based safety processes often take time to implement and integrate into a corporation's overall culture, but once successfully implemented, they can help prevent accidents by ensuring the integration of safety processes and protocols into every activity across departments.

Initially, MBCR management will be trained on how to prevent workplace accidents by observing workers in everyday operations, analyzing risky work practices, and providing positive reinforcement or motivations for change. All levels of the organization will contribute to building a safe work environment, and the process will involve one or more structured committees to review data and develop/authorize changes that will improve safety.

Operation Lifesaver

MBCR's concern for safety goes beyond passengers and employees and extends to the communities where service operates. Operation Lifesaver is a public education program that promotes safety for areas with railroads operating nearby. Since 2003, MBCR trainers have conducted training at 40 schools and community Girls and Boys Clubs reaching an estimated 12,000 students. MBCR has two qualified trainers available to fulfill requests for such training. We will continue to coordinate our outreach efforts with the MBTA as we maintain relationships with local schools and communities to educate them on safe practices when at grade crossings and in close proximity to Commuter Rail tracks.

OPERATION LIFESAVER®
Look, Listen & Live

Safety Awareness

MBCR has also produced videos to educate riders on boarding safely, slippery rail information and the safety at grade crossings. These videos are available on You Tube and have also been posted on MBCR's web site.

Working with the Customer Service Department, we participate in a wide variety of outreach programs, including sending speakers to a summer camp for special needs children that is focused on "How to Ride Safely." We also participate in numerous school campaigns with safety poster contests. In the future, we plan to create social media campaigns dedicated to public safety, as well as embedding safety messages in the Customer Companion.

Safety Excellence Plan

In 2010, MBCR implemented its Safety Excellence Plan to enhance our ongoing system safety efforts. All managers were trained and mandated to work with their departments by focusing on task driven objectives that required every employee to zero in on the program theme of "Safety Starts with You." Five main categories were targeted as part of the plan: employee safety, passenger safety, public safety, catastrophic risks and long-term risk management strategy. In addition, MBCR supplemented the program with a communications effort designed to reinforce the message using safety newsletters and posters, wallet cards and summer safety packs, and reminder items including "Safety Starts with You" wrist bands, magnets, pens and mirror stickers. The program was well-received by MBCR employees and contributed to a downward trend in accidents/injuries.

MBCR's "Stay Focused! Stay Safe!" two-year campaign continues the promotion of safety excellence, and includes training on how to recognize and prevent loss of focus on the job. As previously stated, it has been found that most injuries and rules violations occur as a result of an employee becoming distracted or losing focus.

This program includes the distribution of a challenge coin. Challenge coins originated with the military and have a long history. MBCR encourages employees to carry the coin in honor of fellow railroaders who died or were seriously injured while on the job and to honor them by committing to stay focused on their duties at all times.

Our Safety Excellence Plan is designed to reduce the likelihood of passenger and employee injuries, as well as reduce operating incidents that have the potential to cause serious injury. MBCR's safety initiatives to reduce injuries and accidents are based on these principles:

- Prevention of injuries and accidents is the responsibility of each and every employee
- Training is essential for safety compliance and performance
- Safety is a condition of employment
- All human factor caused accidents and injuries can be prevented
- Exposure to unsafe conditions can be safe-guarded
- Safety is good business
- Identifying the root cause of accidents is key to prevention

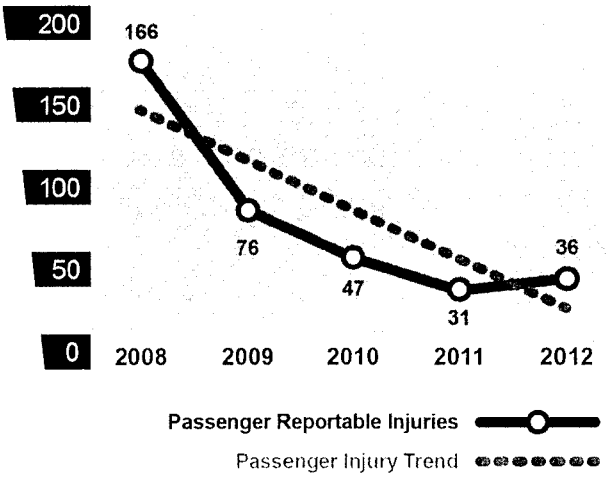
Each month, the Safety and Security Department prepares a Safety Data Analysis report for the MBCR management team that tracks trailing and leading indicators to identify trends requiring attention. The leadership team shares the information with all employees via notice boards and safety briefings.

Results – Fewer Injuries

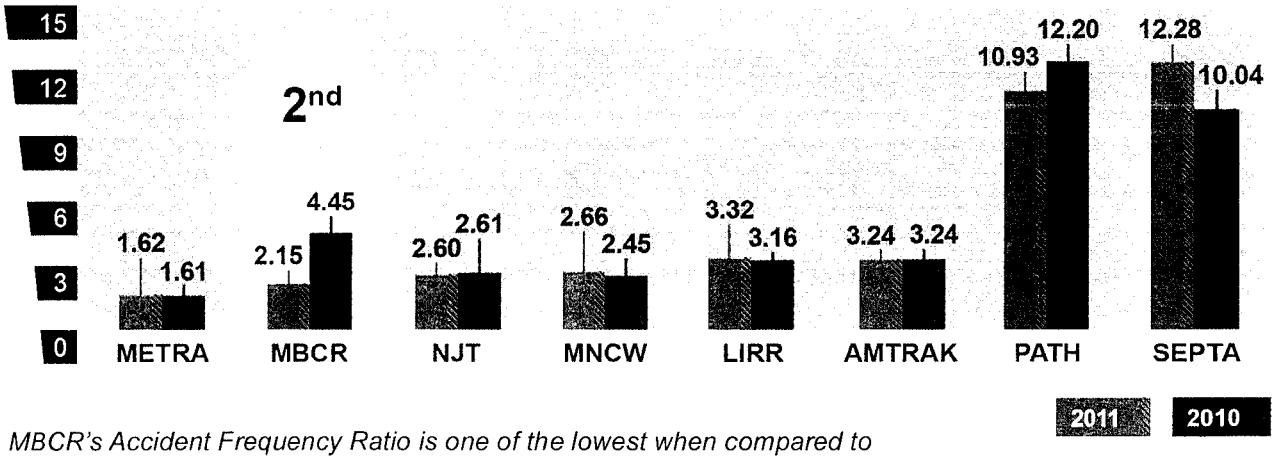
The increased focus on safety training has paid dividends. MBCR's Safety and Security Department has worked with the Customer Service, Engineering, Transportation and Mechanical teams to reduce passenger injuries. Combined initiatives include focusing on defective coach doors and traps, employee rules compliance and training, passenger safety education/awareness, seat drops, improved tracking of customer safety complaints and root cause investigations into passenger reportable injuries. Since 2008, passenger injuries have trended downward by 78% as shown in the chart on the following page.

Employee reportable injuries have also decreased over the same five-year period as shown in the chart on the following page. From 2008 to 2010 employee reportable injuries increased nearly 20% to a high of 91 in 2010 (Accident Frequency Ratio = 4.4). In 2011, reflecting a significant accomplishment, employee reportable injuries dropped by 47% to 48 for the year (Accident Frequency Ratio = 2.15).

Reportable Injuries - Trend Analysis



Accident Frequency Ratio (AFR)



MBCR's Accident Frequency Ratio is one of the lowest when compared to other Commuter Rail networks against which we measure our performance. Source: FRA web site

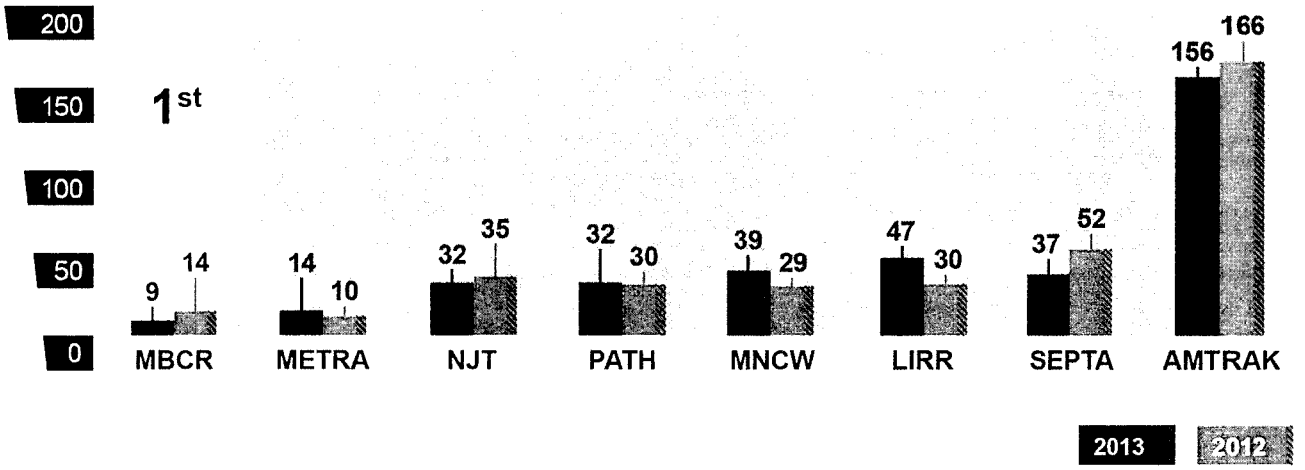
Although the number of employee reportable injuries increased in 2012 to 64 (Accident Frequency Ratio = 2.83), the trend remains on a downward track from 2010. We project by the end of 2013 we will have a 41% reduction in employee reportable injuries since 2010. By the end of 2014 we project to have a 55% decrease in employee reportable injuries. Our goal is zero, and we have set a minimum company goal of a 15% reduction year-over-year. MBCR's "Stay Focused! Stay Safe!" campaign is designed to help drive the number of reportable injuries down further in coming years.

Our goal is to have zero injuries, and we have set a minimum company goal of a 15% reduction year-over-year.

MBCR was ranked number one in the first quarter of 2013 with the fewest Reportable Injuries and the lowest Accident Frequency Ratio when compared to other Commuter Rail networks against which we measure our performance as the charts below reflect. January to March 2013 is the best first quarter performance posted since MBCR was established, with a 39% improvement over 2012.

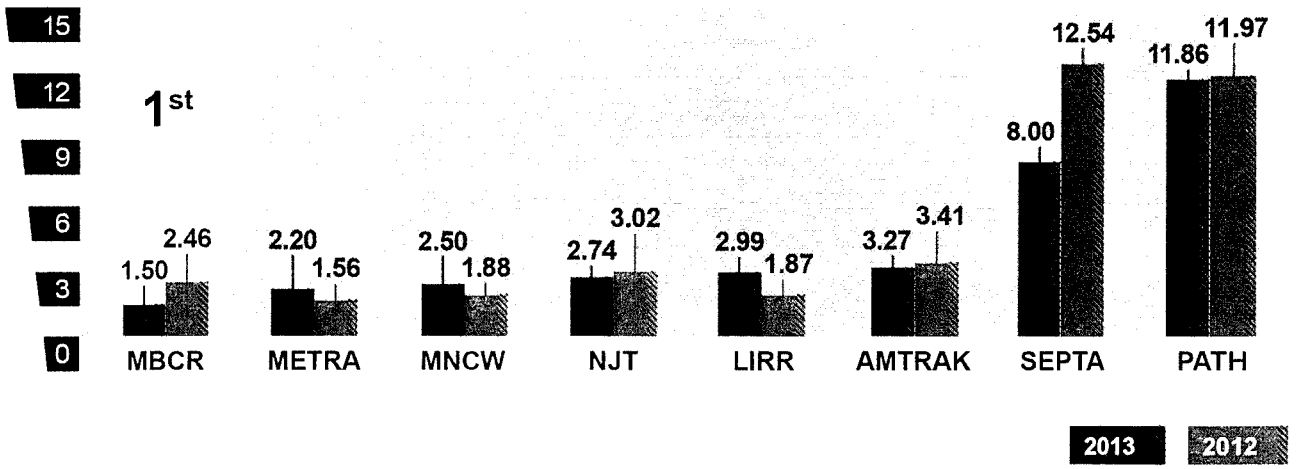
Reportable Injuries

(January-March 2013 vs January-March 2012)



Accident Frequency Ratio

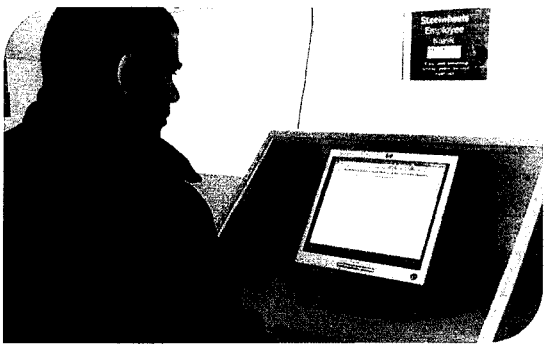
(January-March 2013 vs January-March 2012)



Employee Information Kiosks & SDS Online

In addition to training, MBCR will continue to provide employees with instant access to all safety plans and policies, and Safety Data Sheets (SDS) via SDS Online. This subscription web service provides instruction that helps employees safely handle any chemicals they come in contact with while performing their assigned tasks.

Employee Information Kiosks are located in main facilities and allow employees who do not have an Internet connection the ability to access all MBCR safety information and Safety Data Sheets. The SDS service helps to promote safer work environments, and reduce the risk and liability associated with meeting compliance requirements established by the



MBCR employees can instantly access all safety information using Internet connected kiosks.

Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard, and the newly adopted international Globally Harmonized System (GHS), United States Environmental Protection Agency (USEPA) and other regulatory agencies. A minor accident or chemical exposure can have serious implications in terms of the well-being of our employees, in addition to costs as a result of lost productivity, increased insurance costs and workers' compensation claims.

System Change Identification and Control

MBCR has designed a comprehensive System Change Identification and Control process that is currently in place. This process is used when changes are implemented that significantly affect equipment, facilities, work processes and procedures, or require modification of the railroad's design criteria. As processes change under the new agreement, we will provide managers with additional training on applying this process to further develop their knowledge and help them assess the impact of change to critical safety areas of the operation. Any proposed system change deemed significant undergoes a thorough technical evaluation of the proposed modification performed by the appropriate department. The evaluation process provides an estimated cost and period for design, construction and installation or implementation (where changes to work processes and/or procedures are involved). The process allows managers to gain an understanding of:

- Clear and consistent criteria for determining what equipment, facility, work process and procedural changes are impacted
- Consistent procedures for submittal, review, approval and implementation of all significant design changes
- Careful documentation and dissemination of all such changes
- Established processes through which all changes impacting personnel, equipment, work process and procedures are carefully reviewed for safety impact
- Efficient and consistently applied processes for distribution, safe storage and quick retrieval of all applicable documents

Our System Change and Identification Control process was successfully used in 2005 when new Kawasaki coaches were added to the fleet. New equipment impacts processes and procedures in the Mechanical, Materials Management, Purchasing, Training, Transportation and Engineering Departments and our approach to identify and analyze the many details associated with this acquisition ensures that safety throughout the operation is maintained.

Other Training

Safety is a component of all training we conduct at MBCR. It is included in New Hire Training as well as specialty training that is aligned with responsibilities specific to each department. For example, safety is a component of right-of-way protocol training, such as Bridge Worker Safety and Lockout/Tagout procedures, as well equipment familiarization training such as Personal Protective Equipment and Automated External Defibrillators (AEDs). Standard compliance and craft specific training is conducted by the responsible department and is detailed in Supplemental Appendix 7 – Training.

2.A.2 Safety Inspections and Observations

Safety Inspections and Field Observations are designed to fortify the safety processes, procedures and plans implemented by MBCR, and to identify failures, hazards, risks and unsafe work practices to prevent the occurrence of accident/incidents and injuries/illnesses. The processes currently in place exceed MBTA and regulatory safety standards and continue to be strengthened through MBCR's continued commitment to rigorous total quality assurance training.

Safety Inspections and Observations focus on rolling stock, maintenance facilities, dispatch centers, tracks, bridges, tunnels, right-of-way, stations, platforms, vehicles - virtually everything that impacts

the safety of our customers, employees and the public adjacent to our railroad operations. These inspections and observations are conducted in the field on all MBCR employees performing their duties and are instrumental in our manager/supervisor engagement expectations. Our Safety and Security Department works with each department responsible for inspecting and observing their areas of responsibility to ensure compliance and tracking the completion and resolution of issues identified as part of the process.

Workplace Safety Inspections and Observations

Workplace Safety Inspections and Observations are a key component of MBCR's overall System Safety Program and continuously contribute to decreases and elimination of employee accident/incidents and injuries/illnesses. These inspections and observations are continuously on-going to proactively identify hazardous situations and unsafe work practices, and to implement controls prior to accidents/incidents and injuries/illnesses. Department managers and employees are required to conduct inspections and identify unsafe conditions, practices or other hazards, and to reinforce good working practices. Inspections are conducted at different times of the day to account for varying employee shifts and to get a complete picture of their work environment throughout the day.

The methods that make up the inspection process include talking with employees to get their input on health, safety concerns related to their work environment and any solutions they might offer to address those concerns. In addition, visual observation of the work environment contributes to the identification of potential hazards and practical solutions.

All Safety Inspections and Observations are documented with appropriate corrective and remedial actions. The report includes a summary of the inspection, good working practices, items that require immediate action and any failings in violation of MBCR company policies, including federal and state regulations. The department head is responsible for any corrective action that has been identified. These actions are forwarded to the Safety and Security Department to ensure that any recommendations or required corrective actions are tracked until closure by the responsible department.

2.A.3 Corrective Safety Measures

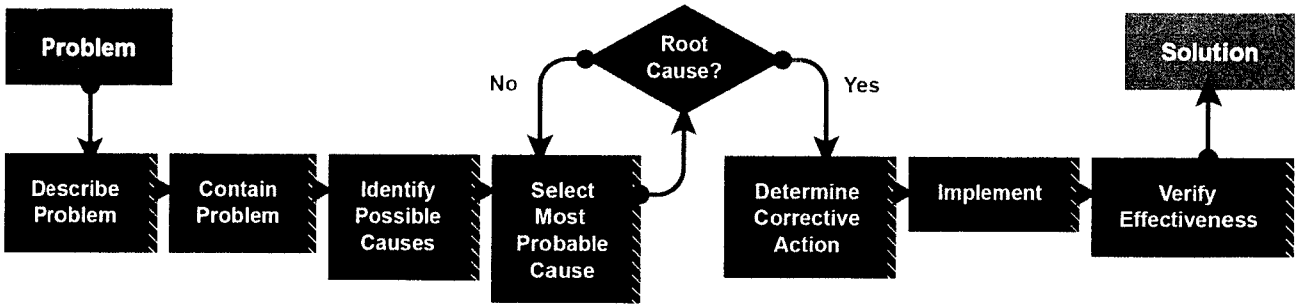
To meet the challenge of MBCR's mission to integrate safety into every aspect of the operation, vigorous formal audits and inspections are conducted to ensure compliance and help identify areas in need of improvement. This enables us to identify hazardous conditions for which corrective actions are necessary, thus minimizing or avoiding degradation to the competency of the equipment or facilities and to avoid loss of life or injury to passengers, our employees and the general public. All Safety plans and programs incorporate measures to address deficiencies. These processes have proven to be effective and ensure follow through of corrective actions. As a result, these remedial processes will continue into the new contract.

In addition, the Safety and Security Department will be part of the new Service Improvement Leadership Team (SILT) with other department heads. This team will focus on finding the root cause of service issues and expeditiously and effectively implement solutions as part of the Customer Service Improvement Plan (CSIP). Further details are in the Customer Service section 7.A.4.

The Safety and Security Department will have direct access to the Issue Tracking Portal. Escalations and alerts will be configured as necessary. Further details are in the Information Technology section 9.A.5.

Section 2.A.6 details our Internal System Safety Audits that are designed to generate reports directing corrective measures and recommendations for reallocation of resources when necessary to reinforce system safety. The Safety and Security Department ensures that any recommendations or corrective actions that may be required are tracked until closure by the responsible department.

Corrective Action Process



Our Hazard Identification and Resolution process described in Section 2.A.6 is designed not only to identify but also to remediate hazards once the investigation process is complete. In addition, each month the Safety and Security Department prepares a Safety Data Analysis report for MBCR's management team that tracks trailing and leading indicators to identify trends requiring attention. As described in Section 2.A.6, the System Change Identification and Control process also functions as a safeguard to identify changes and their impact on the operation which often translate into corrective measures.

To further safety initiatives and continually improve efforts to strengthen programs and processes, MBCR has established Departmental Safety Committees that meet on a monthly basis, and an Executive Safety Committee that meets every other month to review policies and address issues that require decisions beyond the department level. We believe the most effective way to safeguard the Commuter Rail operation is to have both employees and management work together on the safety committees to ensure a balanced process. The committees were established to identify workplace safety-related concerns, and then develop preventative measures to fully address these issues.

All recommendations or corrective actions made are formally documented. The Safety and Security Department is responsible for overseeing the effectiveness of the committee meetings and for ensuring that the committee follows all recommendations or corrective actions until closure. MBCR's General Manager, department heads and employees who serve on the Departmental Safety Committees participate in Executive Safety Committee meetings and meeting minutes are posted on our intranet site, SteelWheels, so all employees may have access.

We believe the most effective way to safeguard the Commuter Rail operation is to have both employees and management work together on the safety committees to ensure a balanced process.

2.A.4 Emergency Response Plan (ERP)

Please see Section 3.D for MBCR's draft Emergency Response Plan (ERP). Planning is essential to mitigate the consequences of an accident/incident or other type of emergency on the system. This planning includes training of personnel, readily available personal protective and emergency medical response equipment, taking steps to prevent fires and environmental releases, and the ability to anticipate and address adverse weather conditions. Our ERP has proven an effective strategy for us to follow in the event of major emergencies resulting from storms and other natural occurrences that present a threat to customers and employees, which may result in the disruption of service. Our ERP has been developed in coordination with ARCADIS, our environmental contractor.

Our ERP was designed with specific procedures for handling sudden unexpected situations and to provide guidance during an emergency. Most recently, the ERP was activated in response to Hurricane Sandy and Winter Storm Nemo. As a result, we succeeded in getting both our customers and employees home safely prior to the suspension of service and were able to mitigate potential damage to MBTA assets. Full details of our response to Hurricane Sandy are detailed in the Transportation Section 6.A.1.

The overriding objectives of the ERP are preservation of life, injury reduction and control, expeditious restoration of service, asset protection and full assistance in any subsequent investigation by the National Transportation Safety Board (NTSB), the Federal Railroad Administration (FRA) and any other federal or state agencies.

Key to handling an emergency situation on the system is having the right plan in place and the right people in charge, on site and at the Dispatch Center. In all emergency events the Incident Command System (ICS) is designed to provide a coordinated response and a clear chain of command. The Rail Incident Commander (RIC) is responsible for front-line management of the incident, tactical planning and execution and for determining whether outside assistance is needed, as well as for relaying requests for internal resources or outside assistance through the Emergency Operations Center (EOC). If circumstances dictate, NIMS is activated placing the RIC as the lead for MBCR to initiate the policies and protocols.

The RIC function is assigned to the Assistant Chief Train Dispatcher or a high-positioned company officer until such time as he is relieved on scene. Critical duties such as coordination of alternate transportation, oversight and cleanup of the event, service restoration and on-site liaison with emergency responders and public safety officials all fall under the RIC's purview.

During the upcoming contract term, we will continue to effectively implement and further evolve our ERP through our commitment to training and certification in NIMS.

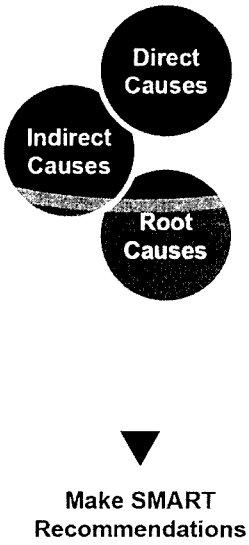
2.A.5 Annual Safety Reviews/FRA Reporting

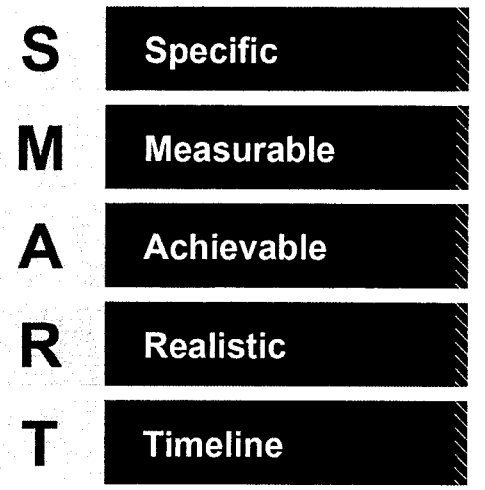
MBCR's Safety and Security Department has strengthened system safety throughout the Commuter Rail operation. This has been achieved by implementing in-depth Internal System Safety Audits. The audits verify that all department managers are in compliance with company policies, processes and state and federal regulations and FRA reporting requirements as outlined in the Internal Control Plan. The audits serve as a continual review of processes and a baseline for measuring improvements and identification of necessary adjustments. These audits will continue under the new contract, providing evidence of the results of safety programs we have implemented, and providing tools to measure progress against goals.

Internal Control Plan

MBCR meets or exceeds the compliance standards of the Federal Railroad Administration (FRA) 49 CFR, Part 225– Railroad Accidents/Incidents Reports, Classifications and Investigations. The Internal Control Plan that has been approved by the FRA is a roadmap to ensure that any accident, incident, injury or illness arising from the operation of the railroad be reported accurately and completely to the MBCR Federal Reporting Officer (FRO).

To ensure compliance, MBCR has put in place stringent policies and procedures to ensure that all rail equipment accidents/incidents and all employee, passenger and contractor injuries/illnesses are recorded. It is the responsibility of all department managers to ensure that teams accurately report all injuries and occupational illnesses. The FRO enters all required information on these incidents into the Accident Incident Report Generator (AIRG), a computer-based system that records and compiles data to meet FRA reporting requirements. During all investigations into injuries and accidents a detailed analysis of an incident is carried out to reveal three cause levels as shown on the following page:





Once the causal factors are determined, root corrective actions are implemented to address any deficiencies in systems, practices and procedures.

- Make recommendations **S**pecific, **M**easurable, **A**chievable, **R**ealistic and have a **T**imeline for completion (**SMART**)
- Relevant facts are not overlooked and are objectively considered during the investigation
- Preconceived notions, press accounts and other influences have not biased the investigation
- Direct recommendations to issues of a system nature rather than to corrective actions (e.g., to direct compliance with any particular standard or procedure is a corrective action)
- Whether any recommendations from previous incident investigations apply, in which case reference to the appropriate recommendation should be sufficient
- Whether any recommendations require approval or investment by the MBTA

Importance of Follow Up:

- To verify the effectiveness of any corrective actions taken from recommendations
- To ensure corrective actions and preventative actions become a permanent part of the system
- To determine if there are any improvements that need to be made to the corrective actions
- To identify system breakdowns and to determine how to address these breakdowns
- To ensure that employees are involved in safety and are empowered to take the appropriate actions

The Safety and Security Department is responsible for ensuring that all accidents/incidents are correctly reported in compliance with this policy and that a thorough investigation is conducted in order to identify actions necessary to prevent reoccurrence. MBCR's Incident Investigation Guide serves as a resource for conducting investigations in a systematic manner and determining corrective actions that will prevent recurrence. Managers/supervisors who carry out incident investigations must be familiar with procedures, required documentation, personal protective equipment, operations, and all processes involved in the particular incident. Training and resources are provided to those who conduct investigations or assist in the investigation process to ensure the correct skills and knowledge are acquired to carry out an investigation in a professional manner.

2.A.6 MBCR Safety Compliance

MBCR's Safety and Security Department works as a partner with the MBTA to ensure system safety. The benefit of this partnership has resulted in a transparent program that has been designed based on the experience and relationships of both MBCR's and MBTA's Safety Departments. This ensures a strong culture of compliance with industry standards and industry leading best practices which strengthens the focus on reducing risk across the entire Commuter Rail operation. This partnership and commitment is leading the way for the MBTA's Commuter Rail operations to become an industry leader in system safety. From continuous management focus to ongoing training, rigorous audits and action plans, performance measures and key performance indicators, employee engagement and incentives, MBCR is committed to establishing the highest safety standards and meeting them consistently.

MBCR's Safety Compliance efforts are governed by a number of comprehensive plans and documents described briefly below and in more detail, where indicated, within Sections 3.A, 3.B and 3.C in the following Section 3 Security, Emergency Preparedness and Emergency Response.

MBCR's System Safety Program Plan (SSPP)

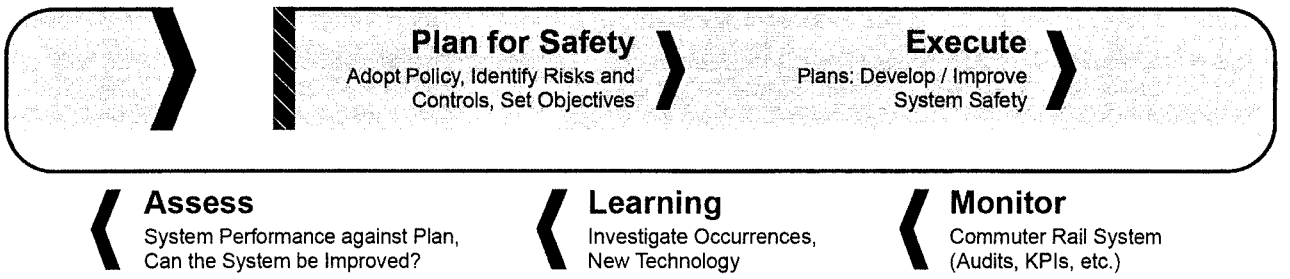
In 2009, APTA's audit of MBCR's Safety and Security Department recognized our SSPP as an Industry Best Practice.

MBCR's System Safety Program Plan (SSPP), which will become the basis for the Operator Safety Compliance Plan (OSCP) (fulfilling the requirements of Schedule 3.5 of the proposed Operating Agreement), defines the processes that dictate MBCR's approach and implementation of safety practices in the daily Commuter Rail operation and is in full compliance with the MBTA's System Safety Plan. MBCR's SSPP was developed in accordance with the American Public Transit Association (APTA) guidelines and consists of 23 elements, grouped into four categories: Safety Management Administrative Requirements; Safety Program Implementation; Safety Engineering Techniques and Analysis; and Safety Assurance.

The SSPP will be revised as needed to meet any new or enhanced requirements outlined by the MBTA, and submitted to the MBTA within 90 days after NTP as required by Schedule 3.5, Section 2.5. The SSPP is supported by a multitude of documents, including policies, standard operating procedures, and manuals of instruction that specify how MBCR will safely and effectively carry out contractual obligations as part of the operation and maintenance of the MBTA's Commuter Rail service. The updated OSCP will incorporate references to all of these supporting documents. The SSPP is a vehicle by which this top priority is incorporated into all aspects of the service and the performance of every employee.

Since MBCR assumed operation of MBTA's Commuter Rail service in 2003, we have worked relentlessly to ingrain attention to system safety throughout the entire Commuter Rail operation and continuous improvement of our approach to safety. The concept of continuous improvement states that any aspect of an operation can be improved, and that the people most closely associated with an operation are in the best position to identify the changes that should be made. Consequently, employee involvement plays a big role in continuous improvement programs.

The Continuous Improvement Cycle


Plan for Safety
Adopt Policy, Identify Risks and Controls, Set Objectives
Execute
Plans: Develop / Improve System Safety
Assess
System Performance against Plan, Can the System be Improved?
Learning
Investigate Occurrences, New Technology
Monitor
Commuter Rail System (Audits, KPIs, etc.)

The Continuous Improvement Cycle - MBCR has proven experience in being responsive to issues as they arise and reviewing the relevant parts of our current SSPP so it may be continuously improved.

The overall goal of the SSPP is to identify, eliminate, minimize and/or control safety hazards and their associated impact by establishing requirements, lines of authority, levels of responsibility and accountability throughout the Commuter Rail operation. It also provides a source of reference for management and safety personnel, and guides MBCR's organizational units to become departments that:

- Assume leadership role for establishing an environment of safety, and for obtaining each employee's personal commitment to foster excellence within their department
- Promote a consistent safety message throughout the company
- Consistently apply processes used to identify, assess and control safety hazards
- Investigate injuries, accidents/incidents, identify causes and initiate corrective action
- Establish and maintain appropriate safety rules, orders, bulletins and procedures
- Conduct initial and recurrent safety training and incorporate an effective level of awareness of passenger safety among MBCR employees and subcontractors engaged in Commuter Rail service

Recognizing the success of the MBTA Commuter Rail SSPP partnership between the MBTA and MBCR, APTA's August 2012 Audit of MBCR's Safety and Security Department issued this commendation:

MBTA and its Commuter Rail contractor (MBCR) continue to demonstrate its commitment to system safety. The MBTA has been a leader in the industry in the progressive development of its safety programs as exemplified through its strong support and participation in the APTA System Safety Management Programs. Since the last APTA audit, the MBTA and its contractor (MBCR) have been proactive with improving safety performance through its progressive development and implementation of the System Safety Program Plan (SSPP). MBCR has focused its efforts on workplace safety, internal assessments, training and the employee wellness program. MBTA's safety commitment is also displayed through its increasing contractor coordination and oversight activities and the improved safety performance of its operations and maintenance contractor. APTA commends the MBTA/MBCR team for their commitment to continuous improvement of the system.

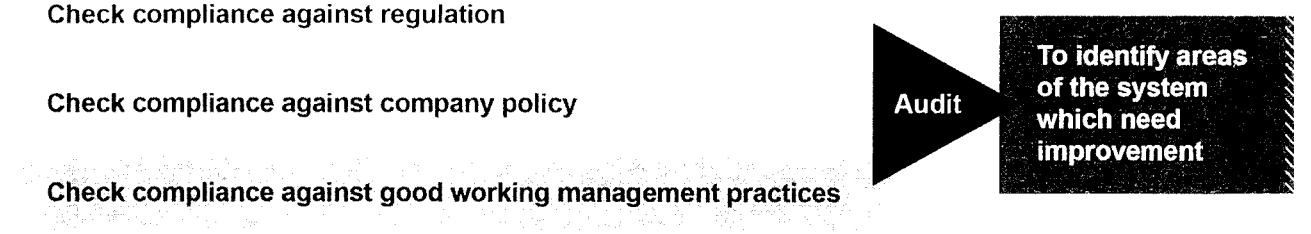
Internal System Safety Audit

A major component of the SSPP is the Internal System Safety Audit which focuses on the examination of all safety-related documents and processes in each department, analysis of safety data and information, observation of equipment, facilities and tasks, and interviews with both front line and management personnel.

In 2012, APTA's audit process recognized the SSPP for implementing robust programs and processes and that MBCR demonstrated continuous improvement through the Internal System Safety Audit.

Each audited department is required to demonstrate its commitment to system safety through workplace safety, rules compliance, safety awareness initiatives, training, maintenance programs, passenger safety and emergency preparedness.

Audits are essential activities that generate feedback for management, enabling the institution of management controls. MBCR will continue to conduct annual Safety Audits, encompassing a review of all 23-safety elements as recommended by APTA during a three-year period. As shown above, the focus of the audits is compliance; the areas of weakness are identified; and the audit process allows for realignment of company resources when required to further strengthen system safety and security.


Check compliance against regulation
Check compliance against company policy
Check compliance against good working management practices
Audit
To identify areas of the system which need improvement

Hazard Identification and Resolution

The proactive identification of hazards is an integral piece of the SSPP and a key component to our overall success in reducing risk. MBCR has developed a formal Hazard Identification and Resolution process to identify and remediate hazards. This process is based on the principles of the Standard Practice for System Safety (MIL-STD-882D). Once a hazard is identified, the Safety and Security Department takes steps to assess the frequency, severity and likelihood of occurrence using the assessment ranking with the Hazard Identification/Resolution Process.

A critical component of MBCR's Hazard Identification and Resolution Process is using all personnel within the organization, particularly those employees working in the field, to identify and report workplace safety hazards or concerns. MBCR is committed to identifying hazards by several different means:

- Safety Hotline – Via email or phone, employees can anonymously report hazards/safety concerns that may impact employees, customers and contractors
- Workplace Safety Inspections
- Job Safety Analysis
- Safety Committees, including the Executive Safety Committee
- Accident, Incident, Injury, Illness Investigations
- Notification to Operations Control Center from sources within and outside of MBCR, including Emergency Responders
- MBTA Transit Police or Safety and Security Department reports and/or other federal, state and local agencies
- Regulatory and other oversight agencies (including FRA, FTA, NTSB and OSHA)
- Routine and unannounced monitoring, auditing, and inspection activities

MBCR Emergency Preparedness Plan (EPP)

Please see Section 3.B for the full draft Emergency Preparedness Plan. MBCR recognizes that passenger and employee safety is paramount in an emergency situation. The Federal Railroad Administration's (FRA) Passenger Train Emergency Preparedness Regulation requires the compliance of each railroad affected in an emergency. Since 2003, we have effectively implemented our EPP, which is fully compliant with FRA requirements and has detailed policies, procedures and programs. We firmly believe that comprehensive emergency planning reduces the frequency of accidents occurring and minimizes the severity of those that do. Our EPP will continue to adhere to a multi-faceted approach to emergency management, and will comply with both FRA requirements and Homeland Security Education Program Requirements. Key elements (further detailed in Section 3.B), include:

Joint Collaboration

As the Commuter Rail tracks are shared between multiple operating railroads, MBCR's FRA approved EPP has been developed as a collaborative effort between MBCR, CSX Transportation (CSXT), Pan Am Railways, Massachusetts Coastal Railroad and Amtrak's Safety and Transportation Departments.

It is the responsibility of MBCR, CSXT, Pan Am Railways and Amtrak that passengers and others who may be involved in an emergency receive medical assistance and are safely transported from the

scene. MBCR participates with APTA's Commuter Rail Safety Committee to ensure it is conversant and current with industry trends and best practices.

Emergency Response Drills

MBCR's Safety and Security Department works cooperatively with the MBTA's Safety Department, MBTA Railroad Operations, MBTA Transit Police and local emergency medical services to develop full scale Emergency Response Drills, which will continue in the new contract period. These drills and exercises are intended to test standard operating procedures (SOPs) and personnel in all areas related to emergency response and to meet Federal Railroad Administration (FRA) 49 CFR parts 238 and 239 requirements. After all Emergency Response Drills, we conduct debriefings and critiquing sessions to determine the efficiency of the drill, to identify any areas in need of improvement, and to recognize and highlight successes. These drills assist all parties in strengthening communication and coordination, while identifying areas of excellence and vulnerability.

MBCR's System Security Plan (SSP)

Please see section 3.A for the full draft of the System Security Plan. In coordination with the MBTA Transit Police, MBCR has developed security protocols that maximize personal security for passengers and employees. MBCR's SSP, which will form the basis of the Operator System Security Compliance Plan (OSSCP) under the new agreement, will undergo joint review annually by MBCR and the MBTA Transit Police to ensure its effectiveness. The SSP works alongside, and in a coordinated fashion with, the System Safety Program Plan (SSPP) already described in this section.

The SSP outlines the authority, responsibility and accountability for decisions that may affect the security of the system and was designed to: comply with federal, state and local regulations governing safety, security, and environmental protection; maintain industry standards; and comply with and support the MBTA Transit Police System Security Plan goals.

The SSP addresses security and emergency preparedness planning and concerns resulting from heightened threat levels that are received via the National Terrorism Advisory System (NTAS) and then communicated via the MBTA Transit Police. Key elements of the SSP include coordination with the MBTA Transit Police, review and expansion of security and emergency response and preparedness standards, and enhanced emergency planning and procedures development. MBCR's draft SSP will be modified, as needed, to meet the additional requirements specified in the draft Operating Agreement.

MBCR works with the MBTA Transit Police to develop security protocols for Commuter Rail.

Working with MBCR Customer Service, the Safety and Security Department has successfully designed and delivered a program to provide basic security and anti-terrorism awareness training to MBCR employees who have direct contact with the public and system access. Every MBCR employee is made aware of their responsibility to be vigilant at all times, be the eyes and ears of the system, to report all security issues and concerns to their supervisor or the proper authority so that it may be handled in the most appropriate manner. This program provides participants with the information, knowledge and instruction to:

- Promote the importance of employee security awareness and identify/report pre-attack terrorist activity
- Instruct in recognizing the difference between normal, suspicious and dangerous activity
- Define employees' role in recognizing and reacting to suspicious activity
- Instruct in the proper, immediate actions when confronted with dangerous activity

Contingency Plan

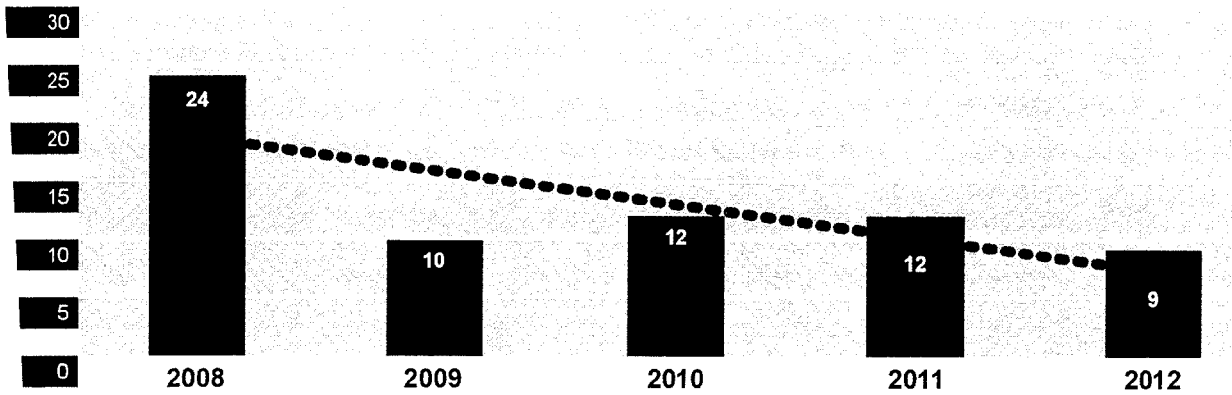
The Contingency Plan serves as a guide to operations management in the event of a work stoppage or labor dispute. It focuses on the protection of MBTA property, resources and equipment while continuing the provision of agreement services to the extent possible. This plan applies to all aspects of train operations and maintenance and is designed to deal with strike and labor disturbances by organizing crisis management efforts into two separate categories: pre-strike planning and strike operations management, or Continuation of Operations Plan (COOP) that complies with Federal Emergency Management Agency (FEMA) guidelines.

Plan details include: strike mission and organization of the security force and specific task forces as deemed necessary by management; principles for the guidance of management and supervisors; security operations to protect rolling stock and facilities; communications, operations, ticket sales; plant operation and logistical operations.

Drug and Alcohol Policy

MBCR'S goal to achieve a drug and alcohol-free workplace is accomplished through the implementation of a comprehensive drug and alcohol prohibition program that meets the Code of Federal Regulations Control of Alcohol and Drug Use and Procedures for Transportation Workplace Drug and Alcohol Testing Programs. All these programs are based on deterrence, detection, assistance and enforcement. The policy ensures that we operate the MBTA Commuter Rail service in the safest and most efficient manner possible. The consistent and unbiased application of this Drug and Alcohol Policy is administered by the Human Resources Department and prioritizes the safety and welfare of all customers and employees by promoting a workplace free from the effects of drugs and alcohol.

Drug & Alcohol - Positive Test Results 2008-2012



2012 demonstrates a 62.5% decrease in positive results since 2008

This includes all employee tests required except pre-employment: (Random, Return to Work, Operating Incidents, Employee Injuries)

As a result of MBCR's robust policy and procedures, and proactive engagement with employees, MBCR has experienced a downward trend in positive results since 2008. As shown in the chart above, we have posted a 62.5% decrease in positive drug and alcohol test results through 2012. In the first quarter of 2013, we have had only one positive test result.

As a condition of employment, the Drug and Alcohol Policy applies to all MBCR employees and subcontractors. The provisions of this policy are subject to any limitations or requirements imposed by federal or state law. In all cases, the minimum federal requirements for testing of Hours of Service (HOS) and Commercial Driver's License (CDL) are implemented. Any employment action

taken by MBCR due to violation of this policy is taken in accordance with the procedures contained in any applicable labor agreement. No collective bargaining agreement may supersede federal regulations.

MBCR is required to test any employee when reasonable suspicion exists that the employee may have violated the federal or MBCR prohibitions against the use of drugs or alcohol. Policies for mandatory testing following an accident or incident on the system, or a rule violation are also included in the policy.

MBCR also conducts voluntary random drug testing. We believe that random testing is the best means of deterring the use of drugs or alcohol by all those persons authorized to perform covered service duties in the Commuter Rail operation. This policy applies to all personnel (including contractors and managers) who are subject to performing duties governed by the FRA and who have been assigned to perform service subject to the HOS and the Federal Motor Carriers Safety Administration (FMCSA) (CDL). All MBCR employees engaged in HOS and CDL functions are enrolled in the appropriate random test pool, including those MBCR employees whose duties include operating on foreign territory.

MBCR's Employee Assistance Program (EAP) is available for assistance and treatment for drug and alcohol related illnesses. This program complies with the Federal Railroad Administration (FRA) regulations at 49 CFR, 219, Subpart E – Identification of Troubled Employees. It is MBCR's policy to give all employees and their dependents an opportunity to receive help in recovering from drug and alcohol abuse or emotional problems by providing professional referral and counseling services and arranging assistance in a confidential manner through the EAP.

2.A.7 Joint Management/Labor Programs Enhancing Safety

MBCR's Safety team continually examines its policies and procedures, and looks for new opportunities and partnerships that will enhance safety. MBCR has been an industry leader in the development and implementation of various critical safety programs. National opportunities such as the C^3RS program and research involving management of distractions offer the ability for MBCR to draw on recognized industry leaders to improve existing efforts. Local opportunities such as partnering with the local Samaritans group is an effort to prevent suicides on the system and serves to address an industry-wide problem while helping the community. The addition of Automated External Defibrillators (AEDs) on trains provides a critical tool to address medical emergencies that occur in transit, building on the availability of AEDs already established in stations.

Moving forward, MBCR will continue with the programs outlined below and to explore programs and partnerships that will further reinforce existing measures.

Automated External Defibrillators (AEDs)

Saving lives is the philosophy behind the 2009 installation of Automated External Defibrillators (AEDs) to coach cars. In 2009, a team of MBCR employees saved the life of a commuter in cardiac arrest in North Station. In 2011, a passenger who was in full cardiac arrest was saved by three MBCR managers through the use of one of the AEDs that had been installed. MBCR provides every Transportation Department employee training on safety related initiatives, including AED and CPR certification/recertification, and emergency procedures associated with AEDs. To broaden this initiative, MBCR has also installed AEDs at 13 key locations including South Station, North Station and Back Bay Station, at three main maintenance facilities and on-site at all large MBCR managed construction job sites.

In 2009, MBCR became the first Commuter Rail operator in the U.S. to install AEDs on every Commuter Rail train.

C³RS – Confidential Close Call Reporting System

Risk reduction is the first critical element in operating a safe system. In October 2012, MBCR began implementation of the Confidential Close Call Reporting System (C³RS), a FRA-funded confidential reporting system designed to improve safety practices. It is based on identifying potentially unsafe conditions, or close call/near-miss events that may result in accident or injury. In addition to the FRA, other stakeholders include labor organizations, railroad carriers, the Bureau of Transportation Statistics (BTS), the National Aeronautics and Space Administration (NASA) and the U.S. Department of Transportation Volpe Center.

Clear Signal for Action (CSA)

MBCR's Safety and Security Director is a member of the FRA's Clear Signal for Action Steering Committee. CSA is a risk reduction process that combines peer-to-peer feedback, continuous improvement and safety leadership development. The CSA project has been recognized by the Department of Transportation and other bodies for its positive contribution to both safety and culture. The process was also associated with a 79% decrease in engineer decertification rates, and an 81% decrease in the rate of derailments and other incidents. CSA consists of three proactive approaches to improve safety:

- Behavior-Based Safety (BBS): Utilizes behavioral analysis methods to identify and address at-risk behaviors and conditions before they cause injuries. BBS uses peer-to-peer observations of and feedback about work behavior. Workers collect and analyze the data.
- Continuous Improvement (CI): Establishes a means of analyzing data collected through the BBS process, identifying behavioral and systemic causes of observed at-risk behaviors and conditions, and then implementing corrective actions. Data gathering continues after a corrective action is deployed to allow its effectiveness to be evaluated.
- Safety-Leadership Development (SLD): Provides management training to promote proactive safety practices, such as BBS and CI.

Safety and Security Thought of the Day

Keeping safety and security on the forefront of our workforce's minds is the idea behind the Safety and Security Thought of the Day initiative. Every morning, MBCR departments feature a rule, policy or guideline from their specific operation and email it to all employees in their area. Throughout the day, every departmental meeting begins with a reference to the Safety and Security Thought of the Day so the message is reinforced. Highlighting one relevant safety or security measure each day helps to ingrain the concepts as part of the regular operation of each department.

Preventing Suicide on the System

It is an unfortunate, but not uncommon occurrence, for some who act on thoughts of suicide to use the rail system as their means to an end. In an effort to reduce suicides on the system, MBCR initiated a partnership program with the Samaritans in 2009 to provide aid to individuals in need of assistance and counseling. As a result of this partnership, the Massachusetts Coalition for Suicide Prevention awarded MBCR the "Leadership in Suicide Prevention Award" in 2010 for its efforts in building public awareness through its suicide hotline initiative.

Safety Eyewear

Beginning in 2004, MBCR enhanced personal protective equipment procedures by offering all employees whose duties require the use of eye protection impact-resistant protective eyewear for

both prescription and non-prescription users at no cost to the employee. The safety eyewear provided by MBCR meets the standard of requirements established by the American National Standards Institute (ANSI Z87.1) and has contributed to the downward trend in employee injuries.

Juvenile Deferral Program

In an effort to assist juveniles, Suffolk County's District Attorney's office partnered with MBTA Transit Police and created a program focused on first-time juvenile offenders apprehended for graffiti or trespassing on railroad property. Rather than having an arrest record that could potentially negatively impact their future, the offender and his/her parents are required to attend a presentation partially developed and delivered by MBCR's Safety and Transportation Departments explaining the after effects of trespassing on the system.

Distraction Study

Veolia is working with George Mason University and the FRA to study the effects of distracted driving on MBCR Locomotive Engineers and how to mitigate the effects.

In 2011, the FRA awarded MBCR's partner, Veolia, a $250,000 contract to study an innovative approach that applies the science of cognitive performance to the railroad workplace. Veolia is working in partnership with George Mason University and the FRA on a research project to understand and mitigate the effects of distraction, specifically attention lapses, on rail operators. MBCR Locomotive Engineers are participating in the study via a locomotive simulator designed for human performance experiment and study. Results of this research will help to further enhance rail system safety. Ultimately the findings will serve as a basis for development of training modules for locomotive and transit operators, introducing them to the concept of workplace distraction and effective strategies for recognizing and mitigating distraction. See Supplemental Appendix 1 – Safety.

Health and Wellness

The health of employees is as important as safety at MBCR. Because of this we have instituted a comprehensive wellness program to foster a workplace culture that encourages employees and their families to engage in healthy lifestyles. The program includes comprehensive targeted education, tools, programs, events and initiatives to encourage healthy behavior. Working in combination with MBCR's Human Resources Department, the following Safety Awareness Events are offered. Educational presentations are made by MBCR's Human Resources and Safety Departments, AllOne Health, and Treatment Solutions:

- Drunk and Drugged Driving Prevention
- The Importance of Living a Healthy Lifestyle
- How to Successfully Manage Fatigue
- Staying Safe on the Job and at Home

MBCR will continue its effort to become a health and wellness leader within the railroad industry and among Boston's healthiest employers.

2.B Best Practices Support

Initiative	Section	Category	Validating Information
Key members of MBCR's Safety Department are World Safety Organization (WSO) certified professionals	2 – Key Achievements	Best Practice; Beneficial to Customers	WSO certified members are professionals in the multi-discipline of safety and accident prevention, recognized for their practical experience, education and other learning programs, obtained through academic institutions and continuing education programs
Roadway Worker Protection (RWP) Training	2.A.1	Best Practice	From 2010 to 2012 employee injuries decreased by 30%
Expand NIMS training	2.A.1	Best Practice	Establishes protocols in multi-agency emergency situations for a more effective response
Behavior Based Safety Training module	2.A.1	Innovative; Best Practice	Identifying and reducing at-risk-behavior is a component in FRA safety initiatives
MBCR's Safety Excellence campaign "Stay Focused! Stay Safe	2.A.1	Innovative; Beneficial to Customers	MBCR was ranked number one in the first quarter of 2013 with the fewest Reportable Injuries and the lowest Accident Frequency Ratio compared to other systems
Employee Information Kiosks & SDS Online	2.A.1	Innovative; Best Practice; Cost Efficient	Employee Information Kiosks and Safety Data Sheets allow all employees to safely handle chemicals which promotes a safer work environment, and reduces risk/liability
System Change Identification and Control Process	2.A.1	Best Practice; Beneficial to Customers	The System Change and Identification Control approach was applied in 2005 when new Kawasaki coaches were added to the fleet, easing the incorporation of these additions to the fleet

Initiative	Section	Category	Validating Information
MBCR System Safety Program Plan (SSPP) - will become MBCR's Operator Safety Compliance Plan (OSCP)	2.A.6	Best Practice; Beneficial to Customers	Recognized in 2009 by the American Public Transit Association (APTA) as an Industry Best Practice
Internal Assessment Process included in the SSPP	2.A.6	Best Practice; Beneficial to Customers	In 2012, APTA gave MBCR special recognition for demonstrating continuous improvement as a direct result of the Internal Assessment Process included in the SSPP
Confidential Close Call Reporting System (C^3RS)	2.A.7	Innovative; Best Practice; Beneficial to Customers	FRA-funded confidential reporting system designed to identify potentially unsafe conditions, or close call/near-miss events that may result in accident or injury
FRA's Clear Signal for Action (CSA) Steering Committee	2.A.7	Innovative; Best Practice; Beneficial to Customers	The CSA project has been associated with a 79% decrease in engineer decertification rates, and an 81% decrease in derailments and other incidents
Automated External Defibrillators (AEDs) on every Commuter Rail train	2.A.7	Innovative; Best Practice; Beneficial to Customers	MBCR has saved passenger lives through having AEDs on the trains

Summary

Our customers entrust their safety to us every time they board a Commuter Rail train, and this responsibility is one we are committed to delivering on each day. Working with the entire MBCR organization, MBTA, regulatory agencies and our local first responders, we help to ensure compliance, safeguard against accidents/incidents, and continually review, update and enhance our protocols to address those instances where activities go against plan.

Our safety record over the past 10 years has made us a proud MBTA partner. Diligent planning and preparation, adopting best practices from industry leaders and in many instances creating those best practices for others to follow, and the integration of safety into everything we do have all contributed to the industry leading safety performance we have delivered on behalf of MBTA's Commuter Rail. But it is the people that apply all of these tools that truly comprise our quality organization. Placing the safety of our riders and colleagues as our highest priority has carried us to the forefront of operational safety within the industry. Our industry leading practices coupled with our knowledge of the Commuter Rail operation, make MBCR a strong partner to the MBTA, and the optimal provider of safe commuter services for the Greater Boston Region.

Section 3 - Security, Emergency Preparedness & Emergency Response

Section 3

Security, Emergency Preparedness and Emergency Response Evaluation Factor Information

MBCR

Section 3 – Security, Emergency Preparedness and Emergency Response Evaluation Factor Information

Overview

1. MBTA Objectives

A. Clearly defined roles for security and emergency preparedness and emergency response, and demonstration of accountability for the security of the system

B. Plans and processes that ensure full compliance with all applicable laws, rules and regulations

3.A MBCR Draft Operator System Security Compliance Plan

The MBCR Draft Operator System Security Compliance Plan (OSSCP) is a system-wide security plan that seeks to maximize personal security for employees, passengers and contractors. This plan will form the basis of the OSSCP under the new agreement and will be amended to include all requirements specified in Schedule 3.5 of the draft Operating Agreement. As has been the case during the previous contract term, MBCR's Security Plans will function alongside, and in a coordinated fashion, with MBCR's Safety Plans to ensure the highest level of safety and security for Commuter Rail customers and employees.

The OSSCP is designed to ensure and promote a firm commitment to system security. The MBTA Transit Police have the primary responsibility for public safety, security and law enforcement throughout the Commuter Rail operation. The MBTA Transit Police are MBCR's primary source of security intelligence and will determine activation of security protocols as described in this plan.

The OSSCP outlines the authority, responsibility and accountability for decisions that may affect the security of the system furthermore; the purpose of the plan is to:

- Ensure emergency preparedness activities are established to ensure the readiness to respond to emergencies in a timely and effective manner in coordination with the MBTA Transit Police
- Manage threats and vulnerability through interagency cooperation and by using thorough documentation in compliance with MBTA, Transit Police Security Protocols, federal, state and local regulations governing safety, security and environmental protection
- Define security roles and responsibilities to ensure system security and awareness locally
- Emphasize that MBCR is part of a larger team that takes security event direction from the MBTA Transit Police and that all MBTA and MBCR employees are responsible for the safety and security of passengers on the Commuter Rail system
- Provide an overview of MBCR local security protocols as well as federal and state security protocols in support of the MBTA Transit Police System Security Plan.

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Operator System Security Compliance Plan ("OSSCP")

MBCR

3.A.1 Draft MBCR OSSCP

This plan will be reviewed and updated annually by October 1st to evaluate the past year's security performance, identify modifications that are needed and to establish objectives and initiatives for the coming year. This plan will follow the Sensitive Security guideline and procedures as directed by MBTA Transit Police and will be compliant with all requirements of the Operating Agreement.

OSSCP and Sensitive Security Information Guidelines and Procedures

Scope

MBCR is dedicated to using its resources effectively in partnership with the MBTA Transit Police to ensure security protocols have been established to protect all MBCR employees, passengers, contractors, revenue and property as described in this plan.

General

1. The General Manager or designate is responsible for the interpretation, application and administration of this policy.
2. Nothing stated in this policy creates contractual commitment of any kind. MBCR reserves the right to modify their procedures set forth below in whatever manner it deems appropriate.
3. This policy supersedes all previous versions of this policy.
4. All policies and procedures identified within this document can be found on the company Intranet site "Steelwheels."
5. Only department heads authorized by the General Manager and Director of Safety and Security will have full access to the entire contents of this policy.

Definitions

Emergency: A situation that is life threatening to passengers, employees, or other interested citizens or which causes damage to any rail vehicle or facility that reduces the ability of the system to fulfill its mission.

Injury: Any physical damage or harm to a person that requires immediate medical attention and hospitalization.

NTAS: National Terrorism Adversary System –This replaces the color coded Homeland Security Advisory (HSAS)

Safety: Freedom from danger.

Security: Freedom from intentional danger.

Security Breach: An unforeseen event or occurrence that endangers life or property and may result in loss of services or system equipment.

Security Incident: An unforeseen event or occurrence that does not necessarily result in death, injury, or significant property damage but may result in minor loss of revenue.

Security Threat: Such as vandalism; or an activity, such as an assault, intrusion, fire, and/or potential condition that can cause injury or death to passengers or employees or damage to or loss of rail equipment, property, and/or facilities.

System: A composite of people (employees, passengers, others), property (facilities and equipment), environment (physical, social, institutional), and procedures (standard operating, emergency operating, and training) which are integrated to perform a specific operational function in a specific environment.

System Security: The application of operating, technical, and management techniques and principles to the security aspects of a system throughout its life to reduce threats and vulnerabilities to the most

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practical level through the most effective use of available resources.

System Security Management: An element of management that defines the system security requirements and ensures the planning, implementation, and accomplishments of system security tasks and activities.

System Security Program: The combined tasks and activities of system security management and system security analysis that enhance operational effectiveness by satisfying the security requirements in a timely and cost-effective manner through all phases of a system life cycle.

Unsafe Condition or Act: Any condition or act that endangers life, health or property.

Vulnerability: Characteristics of passengers, employees, vehicles, and/or facilities that increase the probability of a security breach.

Goals of the OSSCP

Key elements of the MBCR OSSCP include coordination with MBTA Transit Police, review and expansion of security and emergency response and preparedness standards and enhanced emergency planning and procedures development.

The goal of the MBCR OSSCP is to achieve a high level of security and to mitigate threats and vulnerability for MBCR employees, passengers and local communities.

Transit security has been defined as the freedom from intentional danger for passengers, employees, and the transit system. The term "System Security" refers to threat and vulnerability management. The MBCR OSSCP encompasses the following:

- To act as a guide in the prevention of safety and security incidents and in the mitigation of incidents that may occur by using comprehensive and accurate documentation and interagency cooperation.
- Define the security roles and responsibilities for various MBCR departments with respect to system security and security awareness. The aim is to focus on managing the system environment to analyze and prevent crime, rather than reacting exclusively to a crime after it occurs. The OSSCP will be reviewed annually to identify modifications that are needed and to establish objectives for the coming year. A commitment by all MBCR employees is necessary to ensure the success of the OSSCP. By recognizing that every individual has a role to play in system security, MBCR can be truly successful in minimizing security-related incidents. Just as we expect MBCR patrons to lock their personal vehicles and secure valuables out of public view, our employees must be vigilant to potential criminal activity and take necessary steps to report and deter incidents.

The OSSCP provides MBCR with a security and emergency preparedness capability that will:

- Ensure that security and emergency preparedness are addressed during all phases of system operation, including the hiring and training of personnel; the procurement and maintenance of company and agency equipment; the development of policies, rules, and procedures; and coordination with the MBTA Transit Police, local public safety and community emergency planning agencies
- Promote and encourage a safe system operation through the identification, evaluation and reporting of threats and vulnerabilities
- The cooperation and compliance of MBCR employees assists in creating a culture that supports employee safety and security, and safe system operation (during normal and emergency conditions) through compliance with rules, policies and procedures.

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Objectives

The MBCR OSSCP is applicable to all aspects of the service, ensuring that our operations, training, and response activities are coordinated with the MBTA Transit Police.

The OSSCP will address security and emergency preparedness planning and address concerns resulting from heightened threat levels that are received via the National Terrorism Advisory system (NTAS).

Key elements of the OSSCP include:

- Coordination with MBTA Transit Police
- Review and expansion of security and emergency response and preparedness standards
- Enhanced emergency planning and procedures development

OSSCP Background

The nation is operating in a heightened threat environment, particularly in public transportation. In this environment, the vulnerabilities to acts of terrorism and extreme violence have greatly increased for public agencies and the communities they serve.

Threat assessments issued by the Federal Bureau of Investigation (FBI) and the Department of Homeland Security (DHS) have consistently placed public transportation at the top of the critical infrastructure protection agenda, along with airports, and nuclear power plants.

In coordination with the MBTA Transit Police, MBCR works to ensure an effective security program, but also to enhance our coordination with the local and federal public safety agencies in our service area. Improved communication will increase their awareness of Commuter Rail characteristics and concerns and will improve our readiness to support their efforts to manage community-wide emergencies.

In order to be effective, the activities documented in this OSSCP focus on establishing responsibilities for:

- Security and emergency preparedness regarding the National Terrorism Advisory System (NTAS)
- Identifying the methodology for documenting and analyzing potential security and emergency preparedness issues

National Terrorism Advisory System (NTAS)
NTAS threat alerts are assigned by the Secretary of Homeland Security in consultation with the assistant to the President of the United States of America.

The NTAS is used to effectively communicate information about terrorist threats by providing timely, details information to the public, government agencies, first responders, airports and other transportation hubs, and the private sector.

Raising the threat condition has economic, physical and psychological effects on the nation; so, the Homeland Security Advisory System can place specific geographic regions or industry sectors on a higher alert status than other regions or industries, based on specific threat information.

NTAS Alerts

After the NATAS has reviewed available information, the Sectary of Homeland Security will decide, in coordination with other federal entities, whether an NTAS Alert should be issued.

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NTAS Alerts will only be issued when credible information is available. The alerts will include a clear statement that there is an imminent threat or elevated threat. When an alert is issued the MBTA Transit Police will communicate the information to the MBTA and MBCR General Manager who will take the necessary appropriate response to help prevent, mitigate or respond to the threat.

Below are the definitions of the two types of NTAS alert meanings:

Imminent Threat Alert – Warns of a credible, specific and impending terrorist threat against the United States.

Elevated Threat Alert – Warns of a credible terrorist threat against the United States.

The NTAS Alerts will be based on the nature of the threat; In some cases , alerts will be sent directly to law enforcement or affected areas of the private sector, while in others, alerts will be issued more broadly to the American people through both official and media channels. Refer to Appendix F for an example of the type of information that will be within a NTAS Alert.

Daily Security Protocols

Prior to an NTAS Alert level being MBCR will maintain a minimum level of Daily Security Protocols at all locations to ensure the security of the employees, customers an outline of these requirements can be found within Appendix A which does not form part of this policy to ensure the information is not compromised.

Receiving a NTAS Alert

Upon receiving a NTAS Alert, the General Manager will coordinate with MBTA Railroad Operations and the MBTA Transit Police and then take the necessary steps if necessary to implement the appropriate level of response to a NTAS **Elevated Threat Alert** or a NTAS **Imminent Threat Alert**.

Upon direction from the MBCR General Manager the Director of Safety & Security MBCR will implement the **MBCR Security Escalation Warning System (Appendix B & C)** which outlines the primary actions that MBCR will take in reaction to an increase or decrease to an NTAS Alert being issued. **(Appendix B & C)** does not form part of this policy to ensure the information is not compromised.

(Appendix A, B, C are not an **exhaustive** list of actions to be taken during a security event. It is a guide based upon previous MBCR security experiences and events that have occurred. As a security event unfolds additional unforeseen measures may have to be taken under the direction of the MBTA Transit Police department.)

NTAS Alert Sunset provision

The NTAS Alerts contain a sunset indicating a specific date when the alert expires – there will not be a consistent NTAS Alert or blanket warning that there is an overarching threat. If threat information changes for an alert, the Secretary of Homeland Security may announce an updated NTAS Alert. All changes, including the announcement that cancels an NTAS Alert will be distributed the same way as the original alert.

Below is the definition of the NTAS alert Sunset Provision:

Sunset Provision – An individual alert issued for a specific time period and then automatically expires. It may be extended if new information becomes available or the threat evolves.

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MBCR Operating Characteristics and Service

Service Area

MBTA Commuter Rail trains are operated under contract awarded to MBCR on July 1, 2003. The service comprises of 13 lines from two downtown Boston terminals, North and South Stations. Four lines serve the area north of Boston while nine serve the areas south and west of Boston. Service is provided to 132 passenger rail stations most with parking. Within the MBTA Commuter Rail system, there are 287 Grade Highway Rail Crossings.

Trains are operated seven days a week over approximately 358 route miles, with service beginning at about 5am and ending around 1am during the weekdays, for a total of 479 trains/during Monday to Friday and 144 during Saturday and 130 during Sunday. Most of the service operates over MBTA-owned right-of-way, except for the Worcester line, which is owned by CSX, a freight railroad, and the Shore Line between the Massachusetts State line and Providence station (Northeast Corridor Main Line) in Rhode Island, which is owned by Amtrak. Maximum passenger train speed is 60 mph for most rail lines; however, the Amtrak Shore Line has operating speeds of up to 80 mph. (Old Colony, Eastern Route, New Hampshire Route and Franklin Branch all have speeds up to 70 mph).

Operations Scope

MBCR Commuter Rail passenger service is divided into the following two operating areas:

The MBCR Commuter Rail service is comprised of 13 lines from two downtown Boston terminals; North and South Stations. ***Refer to Figure 1. Commuter Rail Operations Map.***

Security Policy Statement

MBCR is committed to providing safe, secure, reliable, efficient and convenient transportation for all Commuter Rail customers. Refer to the MBCR General Manager's Security Policy Statement (See Appendix D).

Security Training/Education

All employees are made aware of the current policies and protocols available on the MBCR company intranet "SteelWheels". They are also provided training using NTI materials and are frequently educated, using internal methods such as Newsletters, Bulletins and Safety Flashes.

All front line employees such as Transportation and Customers Service that interact with passengers receive in-depth training (refer to Appendix G Terrorism Awareness and Recognition and Reaction Training Program).

Figure 1. MBCR COMMUTER RAIL OPERATIONS MAP

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Responsibilities

All MBCR Employees

Every MBCR employee has been made fully aware of their responsibility to be vigilant at all times and be the eyes and ears of the system and report all security issues and concerns to their manager / supervisor or the proper authority so that it may be accurately documented and responded to.

All employees are responsible to initiate appropriate security response measures and/or emergency operating procedures and immediately notify the applicable MBCR Operations Control Center (OCC) using the following contact numbers:

SOUTH SIDE (CETC): 617-222-8101 or 8102

NORTH SIDE (CROCC): 617-222-6114 or 6115

All employees are aware they must report the following to the MBCR OCC, who will notify the MBTA Transit Police:

- Any observation of suspicious persons, activities or objects, vandalism, trends or potential security breaches
- Identify and report all damage.

All Employees are also responsible for the following:

- Providing suggestions for improved security.
- Completing and submitting security-related reports according to MBCR/MBTA policy and procedures.
- Using proper judgment when managing disruptive passengers and potentially volatile situations.
- Participating in security and emergency preparedness training, including drills and exercises.
- Becoming familiar with all security and emergency preparedness procedures for the assigned work activity.
- Making all appropriate announcements and ensure all security directions are followed
- Wearing their MBCR identification cards at all times

Employees Receiving Threat Notifications

Employees receiving a bomb or substance threat notification at any time while at work need to prepare to react to the situation. The threat notification checklist (Refer to Appendix E) will assist employees and should be used as a prompt. The checklist has pertinent information regarding the threat notification.

All employees are responsible for familiarizing themselves with the threat notification checklist and having a printed copy available at their workstation. On receiving a threat notification call, employees must remember the following:

- Always stay calm and speak slowly and clearly
- If possible ask someone to notify the MBTA Transit Police while you take the call
- Keep the caller on the line for as long as possible by asking questions
- Attempt to get someone to listen to the conversation with you
- Write down as much of the conversation as possible

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- Try and detect background noise which might identify the caller's location
- Try to determine any distinguishing characteristics about caller's voice or accent.

General Manager (MBCR)

The MBCR General Manager shall have overall responsibility for integrating security issues and concerns into all aspects of the MBCR operation ensuring that sufficient resources and attention are devoted to the OSSCP, including:

- Communicating security and emergency preparedness as top priorities to all department heads
- Ensuring dissemination of information to all employees
- Establishing and communicating areas of responsibility
- Coordinating relations with the MBTA Transit Police and other outside organizations that contribute to the OSSCP, including coordination with local public safety and emergency planning agencies

MBCR Operations Control Centers

The MBCR Operations Control Centers are manned 24 hours. The OCC dispatchers are responsible to effectively and efficiently communicate and direct front-line employees ensuring a safe, secure and reliable Commuter Rail service when responding to security related incidents.

Each OCC must take responsibility for:

- Receiving calls for security-related assistance
- Notifying the MBTA Transit Police of the occurrence and the nature of the incident
- Coordinating with law enforcement and emergency medical service communications centers
- Updating supervisory and management staff of serious incidents
- Establishing on-scene communication
- Ensuring that the unusual occurrence report is kept up to date and accurate in relation to any reports or events that take place
- Providing direction to on-scene personnel
- Maintaining control of the emergency throughout its duration
- Contacting emergency responders and regulatory agencies, as required
- Assisting train crew or employees on scene until relieved by a higher ranking authority
- Initiating and coordinating appropriate service adjustments
- Ensuring announcements are made in accordance with MBCR policy

Department Heads

Department Heads are responsible for ensuring the following:

- Enforcing of safety and security related policies and procedures pursuant to this document
- Communicating security and emergency preparedness as top priorities to all employees
- Reviewing current agency safety, security and emergency policies, procedures, and plans, and identifying needed improvements
- Implementing plans for addressing identified improvements
- Ensuring that employees are aware and are compliant with the Identification Card Policy T&DPP-002.
- Making decisions regarding termination or adjustments to service
- Notifying the General Manager of employee disciplinary action that may

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result in the affected employee becoming a risk to MBCR facilities, systems, passengers, employees or other assets

- Ensuring all employees are aware of the threat call notification checklist
- Ensuring the threat notification checklist is at all internal MBCR company telephone locations

MBCR Managers/Supervisors

Manager/supervisors are responsible for communicating security objectives and requirements of this OSSCP to all employees. Managers/supervisors must have full knowledge of all relevant security rules and policies applicable to their department, and encourage employees to incorporate and support security practices into their daily work activities. The specific security responsibilities of the manager/supervisor include:

- Providing leadership and direction to employees during security incidents
- Possessing and maintaining full knowledge of all standard and emergency operating procedures
- Ensuring that all employees and relevant contractors make security a primary concern while on the job
- Being responsive and acting upon all security issues expressed by any employee, passenger, and the community or outside agencies
- Determining when to call for assistance
- Initiating emergency operating procedures when directed by the MBCR Operations Control Centers, or any MBCR official
- Acting as an Incident Commander and coordinating with the applicable MBCR OCC, MBTA Transit Police, or other outside agencies that respond to a security emergency, and offering assistance to those departments or agencies that have jurisdiction to take direct charge of the incident site
- Responding to security calls in conjunction with MBTA Transit Police, local, municipal and federal officers when required
- Completing and submitting security-related reports
- Identifying employee conflict issues and provides assistance in resolution in accordance with the Work Place Violence Policy HRPP-037

Frontline Employees

Frontline employees such as train engineers, conductors, ticket agents, maintenance and other employees in contact with the public should be aware that their professionalism during a security incident helps in providing a safe and secure transit environment. Frontline employees should be especially conscious of their security responsibilities since the public will be looking to them for guidance during and after an incident. Their self-control, confidence and knowledge when dealing with security issues and general customer assistance will contribute to a positive public perception of the security of the system.

MBCR frontline employees should always:

- Remain vigilant
- Report all security-related and trespassing incidents to the appropriate MBCR OCC
- Deal with customers in a polite and professional manner
- Be able to identify and cope with people who are intoxicated or under the influence of drugs to avoid potential confrontation
- Observe and report any suspicious activity that has the potential to escalate into a security related incident

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- Respond professionally to complaints
- Report all arguments involving employees or contractors
- Report all security-related and trespassing incidents to the appropriate MBCR OCC
- Complete and submit security-related reports
- Identify and report security hazards
- Identify employee conflict issues and provide assistance in resolution

Human Resources Department
Human Resources Department responsibilities with regard to security include:

- Ensuring all pre-employment screening processes are carried out effectively
- Developing, implementing and promoting emergency programs to ensure employee/passenger security and safety

Customer Service Department

The MBCR Customer Service Department responsibilities with regard to security include:

- Requesting assistance from MBCR department heads to resource special events, to assist in crowd control and assist if a security event occurs
- Providing insight into potential threats and vulnerabilities through feedback from customer focus groups and other external information sources
- Coordinating with the MBTA Railroad Operations regarding security incidents
- Disseminating security related passenger information

MBCR Safety and Security Department

The Safety and Security Department plays a critical role in supporting Commuter Rail Operations in performing their designated tasks with regard to system safety. The principal goal of the Safety and Security Department is the prevention of incidents and accidents through the early recognition and resolution of hazards.

The MBCR Safety and Security Department responsibilities include:

- Overseeing the OSSCP on a daily basis
- Liaising with the agency's operators and dispatchers regarding the program
- Liaising when necessary with state and federal agencies
- Being responsible for the security-related agenda items for MBCR/MBTA Safety Committee meetings and actions
- Ensuring that safety sensitive items within the OSSCP remain confidential

In managing the OSSCP, the Safety and Security Department will:

- Review current agency safety, security and emergency policies, procedures, and plans, and identify needed improvements
- Develop and implement plans for addressing identified improvements
- Work with the MBTA Transit Police and the MBTA Senior Director of Security and Emergency Management and other MBCR departments concerning security related matters
- Develop and update security related policies and procedures to ensure consistent application of safety and security practices in conjunction with affected departments

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- Coordinate accident/incident investigations with the appropriate responsible departments
- Participate in fire prevention programs and inspections
- Provide technical assistance in the development of rules, policies and procedures governing the Commuter Rail operation
- Provide risk management support
- Develop emergency operating procedures to maximize transit system response effectiveness and minimizing system interruptions during emergencies and security incidents
- Ensure that the Human Resources Department provides the training and tools necessary for employees to effectively respond to security incidents and emergencies
- Coordinate with the MBTA Transit Police and other external organizations, who contribute to the content of the MBCR OSSCP.

General OSSCP

Threat and Vulnerability Identification

The primary method used by MBCR to identify threats to the transit system and the vulnerabilities of the system is the collection of incident reports submitted by employees and information provided by the MBTA Transit Police. Information resources include the following:

- Crimes against property
- Completed incident reports
- Threat and Vulnerability Assessments (TVA) data if and/when disclosed by the MBTA Transit Police
- Risk management reports provided by the MBTA Transit Police
- Equipment maintenance reports
- Passengers' letters and telephone calls
- Management's written concerns
- Crimes against persons
- Regular audits and dril

Employee Assaults

MBCR employees are on the front line of service delivery and are, unfortunately, at times subject to assault. MBCR will take a zero tolerance approach to these offenses. Each and every incident will be thoroughly investigated and responsible parties will be prosecuted to the fullest extent of the law.

Passenger Outreach

Passengers are a resource for the identification of suspicious activity and packages. Outreach also provides reassurance in times of uncertainty. MBCR will consider the following:

- Distribution of flyers and security information to passengers encouraging them to report unusual activity and enlisting them as "partners" in the security effort
- Provide announcements in stations and on train to inform passengers regarding security considerations and emergency procedures that may be in place
- Promote "See Something Say Something" by all means available such as LED passenger information boards, announcements and written literature

Vehicle Security

In exceptional circumstances, or at times of heightened security, the MBTA Transit Police will carry out security sweep(s) in accordance with the level of Homeland Security and information they have obtained that increase the risk or severity of a bomb threat or explosion on MBTA/MBCR property.

Dealing with News Media

When dealing with the media, it is of paramount importance that all inquiries from the news media be directed to the General Manager's office. All other employees are instructed not to discuss the situation with the news media.

Surveillance Cameras

MBCR, working in conjunction with the MBTA Transit Police, have installed surveillance cameras at all outlaying layovers as well as for the Beverly Drawbridge. This is in response to recent thefts as well as providing added security for the infrastructure.

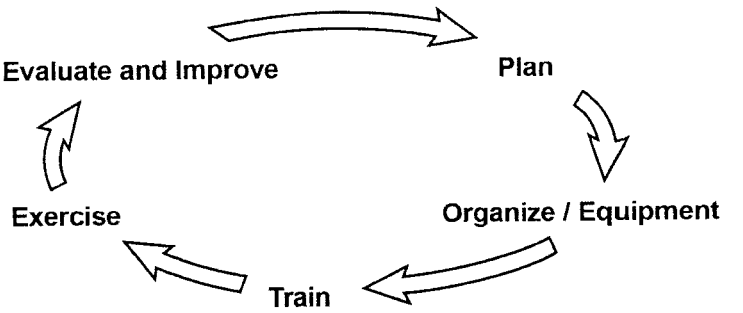
Additional cameras are installed at the Commuter Rail Maintenance Facility, Southampton and Readville, as well as at both Operation Control Centers CTEC and CROCC.

Evaluation and Modification of the MBCR OSSCP

The MBCR OSSCP is a "living document" and needs to address issues associated with system security and emergency preparedness on a timely and proactive basis. It is incumbent upon all appropriate personnel to constantly evaluate the effectiveness of the MBCR OSSCP as well as implementation. The Safety and Security Department will ensure that the MBCR OSSCP is evaluated annually for effectiveness. The security of the system will be evaluated jointly involving the MBTA Transit Police and state and federal agencies as required. The MBCR OSSCP will be evaluated by various methods such as:

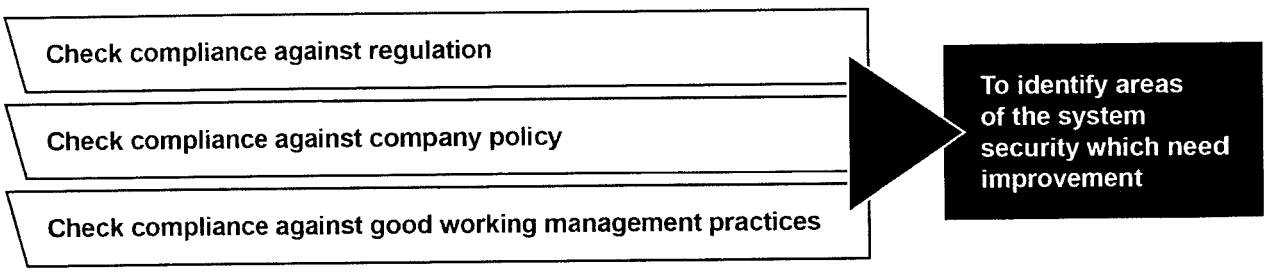
- Past years performance
- Annual inter-agency table top drill/exercises
- Annual practical security event drill/exercises
- As directed by the MBTA Transit Police
- MBTA Transit Police - Threat Vulnerability Assessments (TVA)
- Internal and external audits

Planning is one of the key components of the preparedness cycle. The preparedness cycle shown below illustrates the evaluation process used to ensure an effective OSSCP.



Audits

The MBCR Safety and Security Director will serve as MBCR liaison with all external agencies such as the MBTA, FRA and APTA involved in the auditing of existing procedures associated with the OSSCP. Shown below is the process used when auditing system security protocols, Element 17, which is the required security element within the 23 elements of the APTA/FRA System Safety Program that are recommended to be audited.


Check compliance against regulation
Check compliance against company policy
Check compliance against good working management practices
To identify areas of the system security which need improvement

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Modification and Update of OSSCP

MBCR will review and revise its OSSCP and supporting documentation and training to reflect new practices, policies, and procedures The MBCR Safety and Security Department is responsible for screening changes and modifications to facilitate ongoing revisions to keep the OSSCP current and up to date with current security events and industry best practices.

Any change to the current list of employees who are authorized to access (Appendix A through E) must be authorized by the MBCR General Manager and the Safety and Security Director who will arrange for such access.

APPENDIX A

Daily Minimum Security Protocols for Non-NTAS Threat Alerts

CONFIDENTIAL

Only those authorized by the MBCR General Manager will have access to the contents of Appendix A on the company Intranet "SteelWheels"

APPENDIX B

MBCR Security Escalation Warning System in Response to NTAS Imminent Threat Alert

CONFIDENTIAL

Only those authorized by the MBCR General Manager will have access to the contents of Appendix B on the company Intranet "SteelWheels"

APPENDIX C

MBCR Security Escalation Warning System in Response to NTAS Elevated Threat Alert

CONFIDENTIAL

Only those authorized by the MBCR General Manager will have access to the contents of Appendix C on the company Intranet "SteelWheels"

APPENDIX D

General Manager's Security Policy Statement

MBCR

General Manager
Security Policy Statement

With the heightened awareness of international and domestic terrorism, transit authorities in the United States are facing new challenges to ensure actual and perceptual public safety and security. The core and success of any security program is dependent on the commitment of the organization's personnel at all levels. MBCR's security focus and initiatives are designed to effectively support the security goals and objectives defined within the scope of the approved MBTA Security Plan. While the MBTA Transit Police has the primary responsibility to monitor and ensure the safety and protection of life and property throughout all modes of the MBTA transportation system, the success of the MBTA's System Security Plan is heavily dependent on the level of "security awareness" of all employees throughout the organization.

MBCR will work closely with the MBTA Transit Police in promoting the MBTA security related goals and objectives as they apply to the commuter rail operations.

A formalized communications process has been established to share security critical information between MBCR and the MBTA Transit Police in identifying high-risk areas and problematic trends where responsive action is required. MBCR will also ensure that relevant MBTA system security related policies and procedures are incorporated in the scope of MBCR day-to-day operations and appropriate instruction, training, and monitoring is provided to support their consistent application.

Each and every MBCR employee will prioritize the safety and security of fellow employees, passengers, and the general public. Additionally, MBCR will rely upon, and encourage the participation of, citizens in identifying security concerns and reporting suspicious activities and people to proper authorities.

Through a cooperative team effort we can ensure our security goals are achieved.

If you have any questions in relation to this statement please call the Safety & Security Department on the Safety Hotline 617-222-8282.

General Manager
Massachusetts Bay Commuter Railroad
Issued: October 2011
SSP-110 Rev: 3

APPENDIX E
THREAT NOTIFICATION CHECKLIST
-Page 1-

MBCR

Notification Checklist
For Use with
SPP-110 System
Security Plan

THREAT NOTIFICATION CHECKLIST

NAME OF EMPLOYEE TAKING NOTIFICATION CALL----------

EXACT TIME AND DATE OF NOTIFICATION----------

EXACT WORDS OF CALLER: ----------

Tick the relevant boxes, giving as much information as possible

Voice

- ☐ Loud
- ☐ High Pitched
- ☐ Raspy
- ☐ Intoxicated
- ☐ Soft
- ☐ Deep
- ☐ Pleasant
- ☐ Other

Language

- ☐ Excellent
- ☐ Fair
- ☐ Foul
- ☐ Good
- ☐ Poor
- ☐ Other

Accent

- ☐ Local
- ☐ Foreign (Where)
- ☐ Race
- ☐ Not American

Speech

- ☐ Fast
- ☐ Slow
- ☐ Distinct
- ☐ Slurred
- ☐ Stutter
- ☐ Distorted
- ☐ Nasal
- ☐ Lisp
- ☐ Other

Manner

- ☐ Calm
- ☐ Rational
- ☐ Coherent
- ☐ Deliberate
- ☐ Righteous
- ☐ Angry
- ☐ Irrational
- ☐ Incoherent
- ☐ Nervous
- ☐ Laughing

Familiarity With Threatened Facility

- ☐ Much
- ☐ Some
- ☐ None

Background Noise

- ☐ Factory Machines
- ☐ Bedlam
- ☐ Music
- ☐ Office Machines
- ☐ Mixed
- ☐ Street Traffic
- ☐ Trains
- ☐ Animals
- ☐ Quiet
- ☐ Voices
  Talking , Shouting, Children's,
  Foreign,
- ☐ Party Atmosphere
- ☐ Sirens
- ☐ Bells
- ☐ Airplanes

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APPENDIX E

THREAT NOTIFICATION CHECKLIST

-Page 2-

MBCR

Notification Checklist
For Use with
SPP-110 System
Security Plan

THREAT NOTIFICATION CHECKLIST

QUESTIONS TO ASK THE CALLER

1. When is the device going to activate? _____
2. Where is the Device? _____
3. What does it look like? _____
4. What kind of Device is it? _____
5. What will cause it to Activate? _____
6. Did you place the Device? _____
7. Why did you place the Device? _____
8. Where are you calling from? _____
9. What is your address? _____
10. What is your name? _____
11. If voice is familiar, whom did it sound like? _____
12. Any additional remarks:

REPORT TO YOUR SUPERVISOR OR A SENIOR MANAGER IMMEDIATELY

IMMEDIATELY REPORT THREAT TO MBTA TRANSIT POLICE - 617-222-1212

Fax This Form to Safety Department: (617) 222-6313

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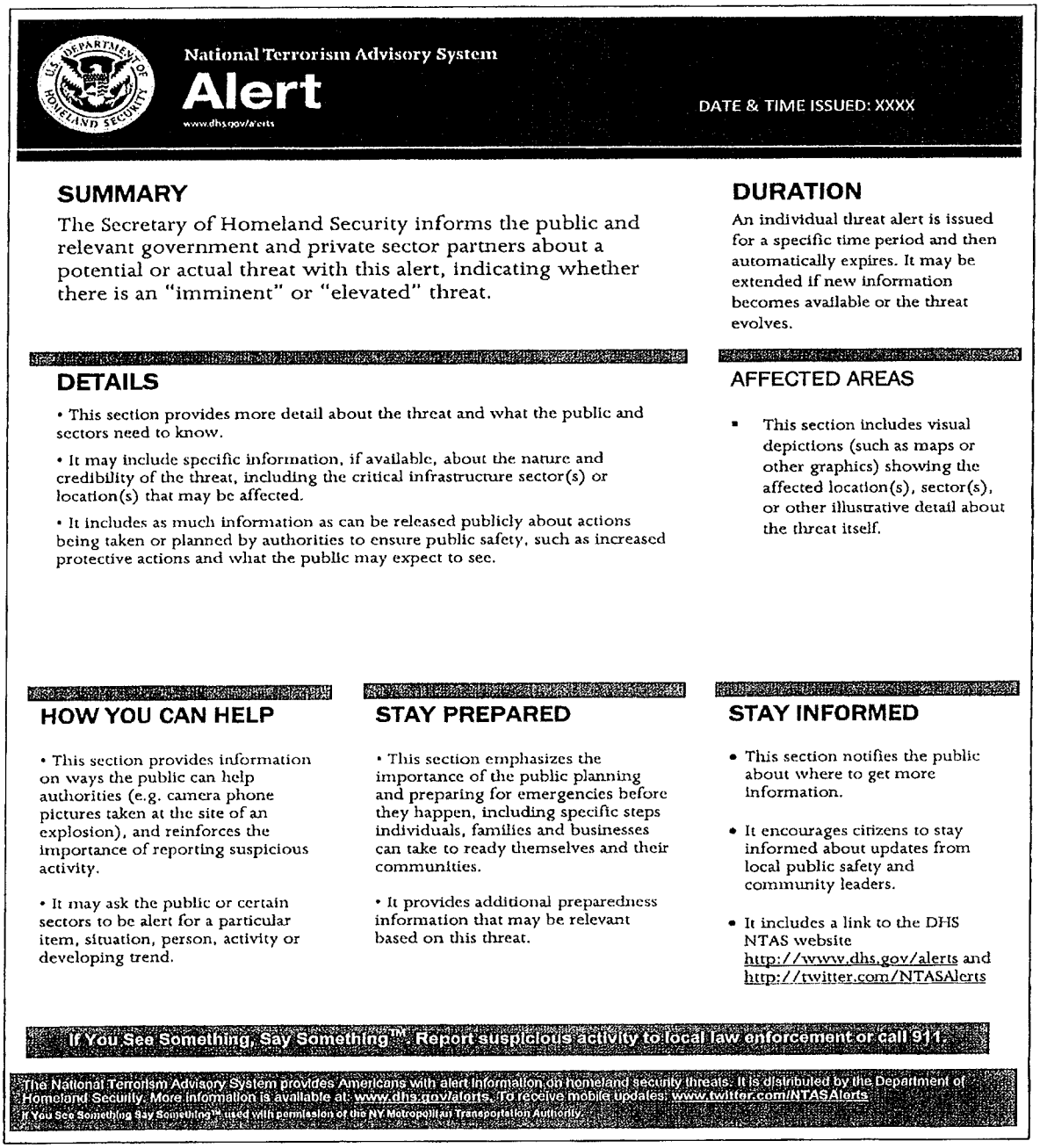
APPENDIX F

NTAS – THREAT ALERT - EXAMPLE



National Terrorism Advisory System

Alert

www.dhs.gov/alerts

DATE & TIME ISSUED: XXXX

SUMMARY

The Secretary of Homeland Security informs the public and relevant government and private sector partners about a potential or actual threat with this alert, indicating whether there is an "imminent" or "elevated" threat.

DURATION

An individual threat alert is issued for a specific time period and then automatically expires. It may be extended if new information becomes available or the threat evolves.

DETAILS

- This section provides more detail about the threat and what the public and sectors need to know.
- It may include specific information, if available, about the nature and credibility of the threat, including the critical infrastructure sector(s) or location(s) that may be affected.
- It includes as much information as can be released publicly about actions being taken or planned by authorities to ensure public safety, such as increased protective actions and what the public may expect to see.

AFFECTED AREAS

- This section includes visual depictions (such as maps or other graphics) showing the affected location(s), sector(s), or other illustrative detail about the threat itself.

HOW YOU CAN HELP

- This section provides information on ways the public can help authorities (e.g. camera phone pictures taken at the site of an explosion), and reinforces the importance of reporting suspicious activity.
- It may ask the public or certain sectors to be alert for a particular item, situation, person, activity or developing trend.

STAY PREPARED

- This section emphasizes the importance of the public planning and preparing for emergencies before they happen, including specific steps individuals, families and businesses can take to ready themselves and their communities.
- It provides additional preparedness information that may be relevant based on this threat.

STAY INFORMED

- This section notifies the public about where to get more information.
- It encourages citizens to stay informed about updates from local public safety and community leaders.
- It includes a link to the DHS NTAS website http://www.dhs.gov/alerts and http://twitter.com/NTASAlerts

If You See Something, Say Something™. Report suspicious activity to local law enforcement or call 911

The National Terrorism Advisory System provides Americans with alert information on homeland security threats. It is distributed by the Department of Homeland Security. More information is available at: www.dhs.gov/alerts. To receive mobile updates: www.twitter.com/NTASAlerts

If You See Something Say Something™ used with permission of the NY Metropolitan Transportation Authority.

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APPENDIX G
TERRORISM AWARENESS RECOGNITION & REACTION TRAINING PROGRAM

MBCR

Massachusetts Bay Commuter Railroad Company

MBCR COURSE DESCRIPTION

Course Name:	**Terrorism Awareness Recognition and Reaction Training Program**
Course Initiation Date:	October 2011
Objective:	To provide basic security and anti-terrorism awareness training to MBCR employees who have direct contact with the public/system access providing them with the knowledge to: ✓ Promote the importance of identifying and reporting pre-attack terrorist activity ✓ Recognize the difference between normal, suspicious, and dangerous activity ✓ Define their role in recognizing and reacting to suspicious activity ✓ Instruct their immediate actions when confronted with dangerous activity
Activities:	MARK video, instruction slides and group situation assessments activity
Method:	Classroom Instruction, Video, Group Discussions
Outline:	• The who, what, how, and why of terrorism • Recognizing suspicious/dangerous activity • Reacting to suspicious/dangerous activity • Immediate actions for dangerous activity • What is your role? • MARK Video • Group scenario assessments
Course Length:	2 Hours
Target Audience:	All MBCR Crews and Ticket Office Staff

Draft Emergency Preparedness Plan ("EPP")

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Emergency Preparedness Plan ("EPP")

MBCR

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3.B MBCR Draft Emergency Preparedness Plan (EPP)

Introduction

The Federal Railroad Administration (FRA) published the Passenger Train Emergency Preparedness Final Rule in the Code of Federal Regulations (CFR) on 4 May 1998. This Rule is located at Title 49 (Department of Transportation), Part 239. The regulation requires the compliance of each affected railroad; therefore, it has been developed as a collaborative effort between Massachusetts Bay Commuter Rail (MBCR), CSX Transportation (CSXT), Pan Am Railways, Massachusetts Coastal Railroad and Amtrak's Safety and Transportation Departments.

This plan has been filed with the office of the Associate Administrator of Safety, Federal Railroad Administrator.

Homeland Security Presidential Directive (HSPD) 5 requires all federal departments and agencies to adopt the National Incident Management System (NIMS) and use it in their individual domestic incident management and emergency prevention, preparedness, response and recovery mitigation programs and activities. As first responding agencies adopt and employ this directive, it is vital to passenger safety and emergency preparedness that an understanding of this directive, with respect to first responders, be achieved and that support by Railroad officials, staff and crews is consistent with the National Incident Management System. Additionally, Presidential Executive Order: Individuals with Disabilities in Emergency Preparedness, dated July 2004 has been incorporated into this Emergency Preparedness Plan.

Purpose, Scope and Division (Territory) Identification

Purpose: This, along with attachments and appendixes, is the controlling document to be used during any passenger train emergency situation. While the overall objective is to ensure compliance with 49 CFR 238 and 239, as required, this plan may establish additional or more stringent provisions. The primary objectives of this plan can be summarized as follows:

1. Preservation of life

2. Injury reduction and control

3. Expeditious restoration of service

4. Asset protection against loss

5. Assist in any subsequent accident investigation process conducted by the National Transportation Safety Board (NTSB), the Federal Railroad Administration (FRA), and/or any other federal or state agencies

Scope: This plan applies to onboard, control centers, operations centers and emergency response personnel.

The MBCR Commuter Rail service is comprised of 13 lines from two downtown Boston terminals; North and South Stations. Four lines serve the area north of Boston while nine serve the areas south and west of Boston. Service is provided to 132 passenger rail stations and two (2) seasonal stations on the Cape Main. **Refer to Section 17 of this document-Commuter Rail Operations Map.**

Definitions, Acronyms, and Abbreviations

NOTE: The following definitions, acronyms, and abbreviations are either directly applicable to this plan or are generally applicable to passenger train emergency response situations.

Amtrak: The National Railroad Passenger Corporation providing intercity rail service over right-of-way shared with Commuter Rail operations.

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Americans with Disabilities (ADA): The Americans with Disabilities Act of 1990 (ADA) prohibits discrimination and ensures equal opportunity and access for persons with disabilities

CETC - Centralized Electrification and Traffic Control: The main traffic controlling and dispatching function for a designated and specific area of railroad operations. MBTA south side Commuter Rail South Side and Amtrak's Northeast Corridor operations (Washington, DC to Boston, Massachusetts located at South Station.

CROCC - Commuter Rail Operations Control Center: The main traffic controlling and dispatch center for MBTA Commuter Rail north side operations located at Cobble Hill, Somerville.

CSXT: – Freight rail operator sharing right-of-way with Commuter Rail operations.

CSXT - Public Safety Coordination Center (PSCC): Formerly known as the CSXT Police Communication Center or PCC, the PSCC is located in Jacksonville, Florida. The PSCC receives emergency calls from several sources and is responsible for ensuring initial and follow-up notifications to CSXT internal departments, federal agencies and local emergency responders. Telephone 1-800-232-0144.

CSXT Selkirk Control Center: responsible for dispatching MBTA/MBCR Commuter, Amtrak Passenger and CSXT Freight trains. Telephone: 1-518-767-6900.

Emergency Medical Service (EMS) - Any sanctioned organization that provides medical services in emergency situations, including paramedic, emergency medical technician, nursing, and/or physician services.

Emergency Preparedness Plan - One or more documents focusing on preparedness and response in dealing with passenger train emergencies.

Emergency Responder - A member of a police, fire, rescue or emergency medical service department or other organization involved with the public safety and charged with providing or coordinating emergency services.

Emergency Situation: An unexpected event related to the operation of passenger train service involving a significant threat to the safety or health of one or more persons requiring immediate action, including:

- A derailment
- A fatality at a grade crossing
- A passenger or employee fatality, or a serious illness or injury to one or more passenger or crewmembers requiring admission to a hospital
- An evacuation of a passenger train
- A security situation

Employee Assistance Program (EAP) - Provides guidance, support, and resources to employees and their family members for resolution of emotional, financial, legal, family, marital, and substance abuse problems. In major occurrences, they also provide assistance, support and resources to our employees and passengers as well.

Federal Railroad Administration (FRA) - An agency of the Federal Department of Transportation that develops and enforces rail safety regulations. The FRA investigates and analyzes railroad accidents and conducts safety assessments of railroads.

Host Railroad – The operating railroad that owns the property upon which train service is conducted. The host railroad may provide control services and related functions to ensure the safe and efficient movement of passenger and freight trains. The railroad may provide passenger train

service using its own equipment and/or it may allow other entities' trains to provide passenger service on its property.

Incident Command Post (ICP) - The primary on-scene control point of operations during initial response actions and subsequent investigative activities. The ICP will be established by Emergency Responders in accordance with the NIMS.

MBTA Commuter Rail Service Employee Timetable - Special instructions modifying and elaborating upon the NORAC rules specific to the operation.

Massachusetts Coastal Railroad - Freight railroad operator sharing right-of-way with seasonal Commuter Rail service to Hyannis.

National Communications Center (NCC) - Amtrak Police Department-operated Control Center located in Philadelphia, PA (at 30th Street Station). The NCC operates the same as all other centralized emergency dispatch centers. As an emergency dispatch center (or "911 center"), the NCC receives emergency calls from several sources. The NCC is responsible for ensuring initial or follow-up notification of local emergency response agencies anywhere in the country and ensures adequate Amtrak Police support if necessary. **Telephone 1-800-331-0008.**

National Incident Management System (NIMS) - Provides a consistent nationwide template to enable Federal, State, local and tribal governments and private sector and nongovernmental organizations to work together effectively and efficiently to prepare for prevent, respond to and recover from domestic incidents, regardless of cause, size or complexity, including acts of catastrophic terrorism.

National Response Center (NRC) - The 24-hour regulatory office for the notification by railroads of major train emergencies **(1-800-424-8802 or in the District of Columbia 202-267-2675)**.

National Transportation Safety Board (NTSB) - An independent federal agency that reports directly to the President of the United States. It investigates and analyzes major transportation accidents (railroad, aviation, highway, marine, pipeline, etc.) and prepares a public report on its findings, conclusions, and recommendations.

Network Operations Center NOC) – The Iowa Pacific Holdings Network Operations Center is responsible for dispatching MBTA/MBCR Commuter service between Bay and Hyannis and Massachusetts Coastal Railroad Freight trains operating on the Cape Main, Telephone: 1-608-314-9310.

Occupational Safety and Health Administration (OSHA) - A federal agency within the United States Department of Labor responsible for establishing and enforcing standards for the exposure of workers to safety hazards or harmful materials that they may encounter in the work environment, as well as other matters that may affect the safety and health of workers. The agency was established under the Occupational Safety and Health Act of 1970 along with the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Review Commission (OSHRC).

Operations Control Center (OCC): A central location such on a railroad with responsibility for directing safe movement of trains; may refer to MBCR, MBTA, CSXT, Pan AM Railways, Massachusetts Coastal Railroad or Amtrak. The OCC is responsible for initiating emergency response checklists, makes appropriate notifications, records information relevant to incidents and coordinates service recovery.

Pan Am Railways - (Formally known as Guilford Rail) – freight rail operator sharing right-of-way with Commuter Rail operations.

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Senior Railroad Official/Incident Commander - The Senior Railroad Official responding to an emergency with the responsibility of initiating emergency procedures, coordinating with emergency responders and commencing investigative procedures in compliance with the (NIMS).The Senior Railroad Official for Passenger Rail will be an MBCR and/or Amtrak Railroad employee and/or Supervisor from CSXT, Massachusetts Coastal Railroad and/or Pan Am representing MBCR/Amtrak.

Responsibilities

General: The following requirements outline the general responsibilities applicable to passenger train emergency operations. Upon completion of emergency response activities, MBCR, CSXT, Pan Am Railways, Massachusetts Coastal Railroad and Amtrak will:

1. Ensure passengers and employees receive appropriate care in a compassionate manner

2. MBCR/Amtrak will arrange for the initial transportation of non-injured passengers and crew

3. Preserve railroad assets and interests at the accident site

4. MBCR/Amtrak will provide emergency response training/qualification of on-board personnel

5. Will notify, with assistance from the MBTA Transit Police/Amtrak/, the relatives of passengers and employees of their condition and location

6. MBCR/Amtrak will notify the National Response Center (NRC) of status and progress

7. Resume passenger and Freight service or provide transportation for passengers to their intended destinations by alternate means with the shortest possible delay

8. Participate and cooperate with all accident investigations

9. Coordinate with emergency response agencies as well as federal, state and local agencies

10. For environmental incidents, MBCR/Amtrak/Pan Am Railways or Massachusetts Coastal Railroad will advise the federal and local environmental agencies and ensure appropriate response actions

11. When an emergency situation involves a freight carrier, coordinating of the applicable portions of its Emergency Preparedness Plan with the corresponding portions of the freight railroad's Emergency Preparedness Plan to ensure that an optimum level of preparedness is achieved

12. MBCR/Amtrak will provide the media with timely and accurate information through their respective media relations groups

Specific: Requirements pertaining to specific responsibilities and actions during Amtrak/ MBCR passenger train emergency events on the railroad are covered in the plan. In all cases, MBCR, CSXT, Pan Am Railways, Massachusetts Coastal Railroad and Amtrak will endeavor to ensure the maximum safety of passengers, personnel, emergency responders and the public.

Communication

Initial and on-board communication: In the event of a passenger train emergency situation on MBCR, it is essential that the initial assessment of the passenger situation, as well as the initial notification to the appropriate train dispatcher, occur as soon as possible following the emergency event. The following actions must be completed by:

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Train Conductor: In the event of an emergency situation, if the train dispatcher cannot be immediately contacted by radio, the conductor (or other on-board service personnel) should contact the appropriate control center.

The Train Conductor will determine if any passenger may have the need for immediate medical service. If this is the case, the conductor must request that if a physician or medically trained person is available, they should immediately report to the area where medical assistance is needed. Conductors must also keep passengers and crewmembers regularly informed of the nature of the emergency situation and the status of corrective countermeasures, rescue efforts, and emergency response.

Information provided to the passengers will be kept brief and concise. While excessive detail is unnecessary for passengers, crewmembers require as much detail as possible to do their jobs, but they must be briefed away from the passengers, if possible.

If operable, the on-board Public Address (PA) system should be used to make general announcements to passengers. Car-to-car verbal briefings may be necessary to ensure adequate dissemination of information.

It is important to brief ALL passengers, including those in cars that are not damaged. They must be kept informed to reduce the potential for panic and to determine their availability in case the crew requires additional assistance.

The Train Conductor will inform arriving emergency responders of the hazards present, the location of the injured (starting with the most severely injured), and locations of passengers requiring additional assistance (e.g., those who are disabled, traveling with children, etc.).

On-board Communications: The Train Conductor will determine if any passenger needs immediate medical attention. If the answer is yes, the Conductor must request that if a physician or medically trained person is available they should immediately report to the area where medical assistance is needed. Conductors must also keep passengers and crewmembers regularly informed of the nature of the emergency situation and the status of corrective countermeasures, rescue efforts and emergency response.

It is important to brief passengers, including those in cars that are not damaged. They must be kept informed to reduce the potential for a panic situation and to determine their availability in case the crew requires additional assistance.

The Train Conductor is responsible for the initial care and evacuation (if necessary) of passengers. The Train Conductor will coordinate the response of all crewmembers to any emergency situation occurring during the operation of the train.

The Train Conductor serves as a liaison to the emergency responder Incident Command System. The Conductor will inform the emergency responder Incident Commander of the hazards present, the location of the injured (starting with the most severely injured), and locations of passengers requiring additional assistance (e.g., those who are disabled, traveling with children, etc.).

Notification Responsibility of other crew members: In the event the Train Conductor is incapacitated or otherwise unavailable to perform the required duties specified above, an alternate crew member will fulfill the responsibilities of the Train Conductor.

In the event a CSXT, Massachusetts Coastal Railroad or Pan Am Railways freight crew is used to handle a passenger train, at least one (1) MBCR/Amtrak crewmember must remain on-board to assist in the event of an emergency. This employee would then be placed in service, even if doing so, would require the crewmember to exceed the time on duty under the Hours-Of-Service Act.

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Notification: The appropriate Train Dispatcher will receive all initial emergency communications from the on-board crewmembers by radio, telephone, or by whatever means available. In the event of any passenger train emergency, the appropriate control center will make telephone notification as soon as possible.

When applicable, the Control Center must also notify (as soon as practical) any adjacent rail lines with information on the nature and degree of the emergency situation and what actions may be required on their part to ensure that their properties do not become involved.

Note: The effected Railroad Control Center is responsible for notification to NRC.

Notification Call List (OCC)

At the MBCR CROCC and CETC as well as Amtrak, emergency notification procedure call lists have been developed and are utilized in times of emergency events. Both dispatch centers (OCCs) initiate these during an emergency event to ensure that internal emergency notification procedure takes place and the appropriate railroad officials are informed that a passenger train emergency situation has occurred.

Employee Training and Qualification

On Board Personnel: All on-board personnel (engineers, conductors, assistant conductors and on-board service attendants) will be provided initial training on the requirements of this plan **(Appendix 2, 6,)** so they are properly prepared to respond in the event of an emergency situation. The level and nature of the training provided shall be dependent upon individual employee duties and responsibilities as required by their assigned position. On Amtrak, Emergency Training Qualification Cards (wallet cards) are issued to T & E, OBS, and Dispatchers; on completion of initial and refresher PREPARE training. It is mandated that the individuals carry the cards while on duty. At minimum, on-board personnel emergency response training shall be provided to the following schedule:

- Initial training for current on-board MBCR and Amtrak employees shall be provided within 90 days of their initial date of service.
- MBCR and Amtrak employees will be provided with refresher training every two years as required by regulation. A current copy of the initial or refresher training may be obtained from Amtrak Office of Emergency Preparedness within the EHS Department. MBCR records are available from the Training Manager of the Human Resources Department.

When situations warrant (new equipment, modifications to existing equipment, changes or improvements to this plan), additional training may be required. In any case, a written test will be administered to document that designated employees are qualified to perform the required actions commensurate with their assigned responsibilities during an emergency situation.

The specific requirements of the Emergency Preparedness Training Program for on-board personnel are provided in Appendixes to this plan. In summary: the Training Program provides information pertaining to the following five key elements:

1. **Rail Equipment Familiarization:** Familiarization with the rail equipment associated with their assigned areas of responsibility. This element is intended to ensure that on-board crewmembers are qualified to operate the equipment under normal as well as emergency situations. While their normal assigned duties may never require the use or operation of such equipment, an emergency situation may dictate otherwise. Additional training in equipment familiarization may also occur outside the scope of the emergency preparedness classes.
2. **Situational Awareness:** Employees will be trained on the specific techniques that are required to properly evaluate and assess situations as they develop. Situational awareness is a key element to ensuring proper response, reduction of panic potential, and passenger safety.

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3. **Passenger Evacuation:** All on-board employees receive extensive training on the proper methods and techniques associated with the safe and orderly evacuation of passengers subsequent to an emergency situation. Employees will be trained on the circumstances that would require evacuation (as opposed to requiring passengers to remain on board). Alternative evacuation routes and the order of preference regarding these routes is a key element of this portion of the training program, as are the potential special needs of handicapped passengers.
4. **Coordination of Functions:** In any type of operation, normal or emergency, successful results are dependent upon the proper actions of more than one person. In an emergency situation, such teamwork is essential to ensure maximum passenger safety and minimum loss. Employees will receive extensive training on the proper coordination of response activities.
5. **Hands-on Instruction:** Crewmembers will be provided on-train instruction on the location, function, and operation/use of on-board emergency equipment. This includes, but is not necessarily limited to, equipment such as fire extinguishers, emergency exit access (including windows), proper use of public address system/equipment, medical aids and equipment (first aid kits, Automated External Defibrillator (AED's), etc.), and any other emergency equipment.
6. **Relieving Crew:** A CSXT, Pan Am or Massachusetts Coastal Railroad train crew relieving an expired passenger crew en route is not required to be qualified under this plan, provided that at least one member of the expired crew, who is qualified in emergency preparedness, remains on board and is available to perform excess service under the Federal Hours of Service Laws in the event of an emergency.
7. **Control Center Personnel:** All responsible Control Center personnel will be trained in the requirements of this plan **(Appendix 2, 6, 7, 8 and 9)**, to ensure that they are properly prepared to respond to emergency situations. They must be familiar with the necessary courses of action that each type of emergency situation dictates. At a minimum, emergency response training shall be provided according to the following schedule:

Initial training for current responsible Control Center personnel on the requirements of this plan shall be provided within 90 days of the implementation date of this plan. Initial training for new Control Center personnel shall be provided within 90 days of their initial date of service. Periodic training for Control Center personnel will be provided every two calendar years, at a minimum. Responsible Control Center personnel will be administered a written test to accurately measure the employees' knowledge and responsibilities under the plan.

The specific requirements of the Emergency Preparedness Training Program for Control Center personnel will cover a range of emergency situations. The Training Program provides information pertaining to the following two key elements:

1. **Dispatch Territory Familiarization:** Control Center personnel must be thoroughly familiar with the dispatch area for which they are responsible. Complete familiarization with all route peculiarities and any other such information is essential. It will also ensure that they know how to accurately and correctly obtain and disseminate information regarding the incident from/to the appropriate officials and agencies.
2. **Protocols Governing Internal Communications:** In an emergency situation, initial information may be incomplete and possibly inaccurate. Control Center personnel will properly evaluate and filter information during the initial, as well as subsequent, stages. Specific policies and established protocols are in place to ensure that the flow of information is as accurate as possible and that dissemination is limited to only essential personnel.

Joint Operations

Pan Am, CSXT and Massachusetts Coastal Railroad have fully addressed its host railroad responsibilities and has jointly discussed, developed and adopted the joint MBCR, CSXT, Pan Am,

Massachusetts Coastal Railroad and Amtrak Passenger Train Emergency Preparedness Plan to comply with requirements.

MBCR and Amtrak, operate Passenger Commuter Rail, over the lines dispatched by Pan Am Railways, CSXT and Massachusetts Coastal Railroad. When this occurs MBCR/Amtrak operates under the requirements as defined within the scope of the MBTA/Amtrak freight contracts.

All freight trains within the MBCR passenger operations rail property are governed by the following:

- NORAC Operating Rules
- Timetables (CSXT, Pan AM Railways, Massachusetts Coastal Railroad and MBCR, where applicable)
- Safety Rules and Instructions
- General Orders
- Bulletin Orders
- General Notices
- Mandatory Directives

The aforementioned provisions will govern the operation of freight trains under the following scenarios:

- Freight Trains that operate within MBCR and Amtrak passenger operations will be under the control and direction of MBCR/Amtrak.
- MBCR Commuter trains that operate on property owned by another railroad will be under the control and direction of the other railroad.
- Freight trains that operate on territories dispatched by MBCR/Amtrak will be under the control and direction of the passenger rail dispatcher.

Special Circumstances

Tunnels 1000 Ft. or Longer

When Amtrak and/or MBCR trains operate within tunnels of 1000 feet or more in length, specific emergency preparedness and response actions are required. Tunnels of 1000 feet or more are identified in the appropriate Amtrak/MBCR Timetables.

In the event of a severe fire to standing equipment, accident, or other emergency occurring in a tunnel that would endanger the safety of passengers, immediate steps must be taken. Before the train crew attempts to detrain passengers or emergency personnel enter the tunnel area all movements must be stopped. Information that evacuation is being progressed must be immediately communicated to the appropriate OCC's.

When MBCR and Amtrak trains operate in tunnels of 1000 feet or more in length, specific emergency preparedness and response actions are required. Emergency situations occurring in tunnels can present unique readiness and response requirements. In general, tunnel emergency response actions are as follows:

- If the train can be moved, every effort should be made to move it from the tunnel in the most expeditious manner. If the train cannot be moved the diesel engines must be shut down within 5 minutes to minimize the potential effects of smoke and fumes.
- Notify the OCC's CETC/CROCC of the location and nature of the emergency and what actions the crew is taking.
- From the initial on-set of the tunnel emergency situation, there must be a fully coordinated execution of this plan by the Conductor, Engineer, and other crewmembers to ensure passenger safety and comfort. Once initial situational assessments have been performed and the proper notifications have been made, attention must focus on passenger safety by swiftly mitigating the emergency.

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- Injured passengers, as well as those requiring special needs (the very young, old, and/or handicapped), will be located and assistance shall be provided appropriate to the given circumstances.
- If immediate passenger evacuation is not deemed necessary (i.e., no derailment, fire, or other dangerous conditions present), crewmembers must evaluate the need for emergency lighting and provide for such if necessary using on-board emergency light devices (light sticks, employee flashlights, battery-powered lamps).
- Crewmembers should make sure that access to emergency exits is clear and unobstructed. All means to egress (detrain) must therefore be made ready and available (e.g., ladders, stairs, etc.). Crewmembers must also assess possible exit routes, both inside and outside the train (e.g., availability and status of bench walls), to determine their condition and ability to support a full evacuation of all train occupants. Evacuation shall occur in a calm and orderly fashion.
- Train Conductor and/or other on-board crewmembers shall communicate with the OCC's CETC/CROCC using the most effective means available. This may include on-board telephone system (if operable) or cellular phone; however, it should be noted that most cellular services may not operate properly in a tunnel environment. The Train Conductor may therefore be required to dispatch a crewmember to make the required notification from the nearest pay telephone or residential telephone.
- The OCC's CETC/CROCC shall take the necessary actions and make the proper notifications. If appropriate, the CETC/CROCC will also notify other users of the affected rail system to ensure proper re-routing of operations.
- If necessary and practical, the OCC's, CETC/CROCC will determine the availability of other trains located in the vicinity of the affected train and request assistance with evacuation and/or other services that may be required. If there are no trains in the general vicinity, a decision will be made to dispatch assistance to the affected area as soon as practical.

Elevated Structures

From the initial on-set of an emergency when a train is passing over a bridge, trestle, drawbridge, or other elevated structure, the Train Conductor and crewmembers must take all possible actions to ensure passenger safety and comfort. Once initial situational assessments have been performed and the proper notifications have been made, attention must focus on passenger safety. In general, elevated structure emergency response actions are as follows:

- Injured passengers, as well as those requiring special needs (the very young, old, and/or disabled), will be located and assistance shall be provided to the maximum extent possible under the given circumstances.
- If immediate passenger evacuation is not deemed necessary (i.e., no derailment, fire, or other dangerous conditions present), or possible (due to elevated structure design or configuration), crewmembers must determine the safest location on the train and move passengers to that location as quickly as possible.
- Crewmembers must assess possible exit routes, both inside and outside the train, to determine their condition and ability to support a full evacuation of all train occupants. Caution is warranted since many elevated structures are not designed to permit pedestrian traffic along the right of way. Open deck design, as opposed to a closed deck design, will make it much more difficult to evacuate. If passengers cannot exit directly onto the tracks from either the front of the train (due to engine placement) or the rear of the train (due to mail car or other reasons), then remaining in the train may be the only alternative. If this is not feasible due to the nature of the emergency (fire, derailment, etc.), then additional assistance from rescue aircraft (ex. helicopter), may be required. The appropriate OCC, Dispatcher will be kept advised of the situation and/or the need for rescue assistance if required.

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- When emergencies occur on elevated structures over bodies of water and evacuation from car to car will not eventually lead to solid ground (i.e. neither end of the train is on solid ground), evacuation assistance may be required from Coast Guard and/or other local marine patrol organizations. The CROCC/CETC or NOC will be kept advised of the situation and/or the need for special rescue assistance if required.
- Communication between crewmembers shall be accomplished using the most effective means available; such as on-board radio (if operable), or portable hand-held communication devices (walkie-talkies).
- Train Conductor and/or other on-board crewmembers shall communicate with the OCC, Dispatcher using the most effective means available. This may include on-board telephone system (if operable) or cellular phone. The Train Conductor may therefore be required to dispatch a crewmember to make the required notification from the nearest call box, pay telephone or residential telephone.
- The CROCC/CETC or NOC shall take the necessary actions and make the proper notifications. If appropriate, the Control Center/CETC will also notify other users of the affected rail system to ensure proper re-routing of operations.
- If necessary and practical, the CROCC/CETC or NOC will determine the availability of other trains located in the vicinity of the affected train and request assistance with evacuation and/or other services that may be required. If there are no trains in the general vicinity, a decision will be made to dispatch assistance to the affected area as soon as practical.

Other Special Circumstances

- **Electrified Territory**: In an emergency in electrified territory, sources of electrical power (Amtrak overhead catenary) may be required to be shut down before emergency responders can enter the area. This is an extremely dangerous situation since all electrical power sources must be considered live until shut down is verified; crewmembers must act accordingly and communicate with the appropriate OCC (CROCC/CETC) to verify shut down as soon as possible. OCC will coordinate with MBTA Transit Operations Control if the emergency involves transit lines. No emergency responder can be permitted to enter into electrified territory until power is shut down and verification is received from OCC.

  MBCR Passenger Commuter Trains operate under Amtrak electrified overhead catenaries between South Station terminal (MP 228.7) to Wickford Junction (MP 165.9) 62.8 miles.

  Trains also operate under electrified overhead catenaries between South Station terminal and South Hampton Street Yard.

  Note: The same crewmember and OCC response to special operating conditions will be required as noted above (Tunnel Operations Appendix 1) to ensure optimum passenger and crewmember safety.
- Parallel Operations: In an emergency on a parallel rail line, the OCC must ensure proper notification to users of adjacent rail modes of transportation to ensure proper re-routing and to minimize the likelihood of further complications at the emergency location. MBCR OCC may request assistance from adjacent rail modes of transportation with regard to evacuation and/or passenger safety.
- Cape Cod Canal Lift Bridge: MBCR crew members are fully trained in emergency situations when a train is passing over a bridge, trestle, drawbridge, or other elevated structure. At MP 54.84 on the Cape Main in Buzzards Bay, MA is the Cape Cod Canal movable bridge spanning approximately 544 feet. This lift style bridge is currently under the control of the Army Corps of Engineers (USACE) and is included in the Mass Coastal time table.

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- Security Incidents and Preparedness: MBCR and Amtrak crewmembers are trained to identify situations warranting possible law enforcement response. Specifically, confrontational individuals, strange unattended packages or baggage, and suspicious individuals observed on the right of way will immediately be communicated to MBCR or appropriate OCC for a law enforcement response. MBCR will cooperate with MBTA and local law enforcement in conducting periodic security drills.

Reference the following MBCR documents: Appendix 1 - Emergency Evacuation Procedures under Special Circumstances and Appendix 11 extracts from the current MBTA Commuter Rail service Employee Timetable refer to Special Instructions **FS-1** Passenger Train Emergency Situations, **FS-2** Emergency Preparedness **F-S3**, Tunnel Emergency Evacuation Procedures, **FS-4** Train Explosion/Derailment, **F-E1** Salem Tunnel Emergency Exits, **F-B1**. Hingham Underpass – Emergency Exits, Refer to current Amtrak Timetable, **F-B1** Tunnel/Wall Emergency Exits (Forest Hills and Back Bay).

Liaison with Emergency Responders

Availability of Training Materials: MBCR and Amtrak will make their emergency preparedness and response training materials available to all host railroads and on-line emergency responders in host railroad operating territories. This action is intended to ensure an expected level of competency should the responders ever participate in a simulated or actual emergency event.

Training materials may include, but are not limited to: video instruction, workbook exercises, car and locomotive information, written examination and evaluation books, and other such training modalities that have been proven successful for this type of training.

Training shall focus on the railroad environment, railroad operations, emergency access to passenger cars, respective hazards and safety precautions, and the typical location of railroad facilities and equipment. Methods of communication between railroad officials and emergency response crews shall also be covered, as well as the need for a pre-plan.

Whenever possible, MBCR/Amtrak will offer this training directly to the on-line response agency or organization; otherwise, the training materials will be provided to the responsible official(s) within the appropriate emergency response organizations (e.g.: State training institutes, firefighter organizations, police academies, local emergency response teams, etc.).

When training is not provided directly, MBCR/Amtrak shall request a copy of class rosters from each organization that utilizes the training materials to verify adequate dissemination of the required information to the appropriate levels within the response organizations.

Distribution of Emergency Plan: In addition to the training requirements, MBCR, CSXT Pan Am Railways, Massachusetts Coastal Railroad and Amtrak shall also distribute an appropriate number of copies of this plan (or applicable portions thereof) to emergency response organizations that may be required to participate in an emergency situation or simulation.

If significant changes are made in the plan or at a minimum every three years, then these changes will be appropriately distributed as necessary.

Of particular interest to response organizations will be route maps and the physical characteristics and peculiarities of the rail lines MBCR/Amtrak operates over. Also, the names, titles, and contact telephone numbers of railroad officials must also be provided to ensure adequate communication and coordination.

On-Board Emergency Equipment

General: In general, this equipment includes as a minimum, the following:

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- One fire extinguisher per passenger car (Type ABC)
- One pry bar per passenger car
- One functioning flashlight per on-board crewmember
- One standard equipped first aid kit and one AED per each passenger train (located within the Control Car). First-aid kit contains at a minimum:
  - A. Two small gauze pads (at least 4x4 inches)
  - B. Two large gauze pads (at least 8x10 inches)
  - C. Two adhesive bandages
  - D. Two triangular bandages;
  - E. One package of gauge roller bandage that is at least two inches wide;
  - F. Wound cleaning agent, such as sealed moistened towelettes
  - G. One pair of scissors
  - H. One set of tweezers;
  - I. One roll of adhesive tape
  - J. Two pairs of latex glove
  - K. One resuscitation mask

On-Board Emergency Lighting:

Both MBCR and Amtrak follow Federal Railroad Administration industry standards pursuant with 49 CFR Part 238.115 (b) (iii)

The MBCR 900 series passenger cars are designed to provide emergency lighting in the event of Head End Power (HEP) loss. The emergency lighting provides approximately **90 minutes** of battery powered lighting at acceptable levels (in accordance with industry standards) to enable passenger egress.

The Amtrak passenger cars are designed to provide emergency lighting in the event of catenary power loss. The emergency lighting provides approximately **90 minutes** of battery powered lighting at acceptable levels to enable passenger egress.

Auxiliary lighting (ex: hand held flashlights) shall be provided to each on-board crewmember for use during emergency situations as required. Each flashlight shall be capable of functioning continuously for a period of **not less than 15 minutes**, and intermittently for **not less than 60 minutes**. Each on-board crewmember shall verify the proper operation of their auxiliary lighting equipment at the beginning of each assigned shift. In the event replaceable power cells are used, spare batteries shall be kept available at all times. Rechargeable flashlights shall remain fully charged and ready for use at all times.

Communication: In accordance with railroad operating rules, a responsible train crewmember shall verify the operation of the train announcement (PA/IC) system at the beginning of each assigned shift. If the announcement system is found inoperable, crewmembers will walk through the train and make announcements on the cars found to be inoperative and report the problem to the proper authority.

Maintenance: For adequate preparedness, light sticks, first aid kit, and other emergency equipment, PA, pry bars and fire extinguishers shall be inspected (daily on each in service car), maintained or replaced (as required) at least daily, and in the 92 and 184 day inspections.

On-board crewmembers shall regularly check the status of this equipment during the normal course of their assigned duties. Abnormalities shall be reported immediately so that the equipment can be repaired or replaced at the next possible opportunity in accordance with all applicable MBTA, MBCR, Amtrak and (FRA - 49 Part 238.305 (c)(12) 238.307) and APTA requirements.

Passenger Safety Information

Passenger Awareness Program: Passenger safety and comfort are the primary concern during all MBCR/Amtrak passenger train operations. This is especially true during and following any type of

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emergency situation. In an effort to prepare its passengers for the unlikely event of an emergency, MBCR/Amtrak shall take specific measures to properly and effectively communicate emergency information using all practical means available. At a minimum, one or more of the following techniques shall be employed on passenger trains to help ensure passenger awareness of emergency preparedness and response actions:

- Legible, clear and simple emergency instructions shall be conspicuously posted throughout every passenger car. Methods include, but are not limited to the use of bulkhead signs, set back decals, seat cards, or other distinct posted materials.
- More detailed printed emergency instructions will be provided as an insert to on-board magazines and other informative publications that are normally available free of charge to passengers.
- On board train crews will make frequent and brief on-board announcements will be made to ensure passengers are consistently informed of the actions required should an emergency situation occur.
- Printed timetables shall have emergency information printed in clear, legible and simple-to-read language.
- In some locations, the use of regularly scheduled automated public service announcements as well as signs and video monitor/LED displays, in stations, to consistently keep the traveling public informed and aware.

Railroad Security

To prepare employees to provide a safe and secure service to our passengers, MBCR/ Amtrak, in conjunction with the Transportation Security Administration, the National Transit Institute, and various freight railroads developed the **System Security Awareness for Railroad Employees** training program.

This required training program provides MBCR/Amtrak employees with the skills and knowledge needed to understand and carry out their roles and responsibilities regarding the security of our rail system. The NTI System Security Awareness for Commuter Rail Employees Program contains basic safety and security awareness concepts, as well as, comprehensive training focused on specific areas of our rail system such as stations, facilities, equipment and other infrastructure. While this program will demonstrate the simple steps that must be taken to safely protect MBCR/Amtrak against terrorist threats, it will not alter primary job responsibilities.

MBCR has adopted Transit Watch, a passenger awareness program developed by the Federal Transit Administration, based on the concepts of Neighborhood Watch. Various media is disseminated on trains, stations and through agency web sites, providing awareness information and encouraging passengers to report suspicious activity to on board personnel or through a toll free number.

This training program is mandatory for all Amtrak employees. The records for this training initiative are incorporated in Amtrak's SAP database in Washington, D.C.

This training program is mandatory for all MBCR employees and is delivered within the new hire orientation and as part of on-board train crew customer service training.

Passenger Train Emergency Simulations

Full-Scale Simulations: To ensure maximum preparedness of both company and external emergency responders, MBTA/MBCR/Amtrak will periodically conduct full-scale emergency simulations.

Emergency simulations will be performed in consideration of the variety of emergency scenarios that could reasonably be expected to occur during normal operations.

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All possible measures will be taken to ensure the cooperation, coordination, and participation of those emergency responders who voluntarily agree to participate in the emergency simulation.

Simulated emergencies offer an excellent opportunity for subsequent training and lessons-learned exercises. Therefore, whenever possible and practical, MBCR/Amtrak shall videotape the simulation and related pre and post-activities, for further evaluation and for use in training programs.

Frequency of Emergency Simulations: At a minimum, MBCR/MBTA and Amtrak will plan, schedule, conduct, and evaluate one full-scale emergency simulation on a selected route per calendar year. In addition, MBCR/Amtrak will seek out and participate in any exercises, drills, or tabletops sponsored by other transit agencies or regional local response agencies.

Debriefing and Critique

General Requirements: To ensure maximum effectiveness of this emergency preparedness plan, MBCR/Amtrak will conduct a coordinated debriefing session following each emergency simulation exercise as well as after each actual passenger train emergency situation.

Each property will record the debriefing using the applicable standard critique form.

During the debriefing session, all participants shall be encouraged to offer their critique of the emergency event (actual or simulated). Critique and criticism shall be directed at the effectiveness of the established provisions of this plan and shall specifically attempt to identify areas for improvement.

MBCR/Amtrak will ensure that debriefing and critique sessions are held no later than 60 days pursuant with CFR 49 part 239 from the date of the subject emergency event (whether actual or simulated).

Purpose of Debriefing and Critique: To ensure that debriefing and critique sessions evaluate critical areas and result in the identification of opportunities for process improvement, the following elements will be examined:

Communications: Essential to the overall emergency response effort is effective communication between Train Conductor and crewmembers, between crewmembers and passengers, between crewmembers and Dispatcher/Amtrak and MBCR CETC, MBCR CROCC personnel, between crewmembers and the CSXT Control Center, and Pan Am Railways Control Center and between crewmembers and Massachusetts Coastal Railroad and between the Amtrak Police personnel and MBTA Transit Police and responding organizations. Therefore, the entire process (i.e.: communication procedures and equipment) shall be critiqued and areas for improvement identified.

Timing: In order to affect an adequate level of emergency response, the amount of time between the emergency occurrence (and simulation) and initial notification is critical. All efforts will therefore be taken to identify reasons for any delays in the notification process.

Amtrak/MBCR Operations Control Center: In addition to determining if the overall communication effort itself is adequate, the Amtrak/MBCR CETC notification process and that of the CSXT, Massachusetts Coastal Railroad and/or Pan Am, and the MBCR CROCC will also be examined. The railroad officials and response agencies will be notified and the adequacy of the Notification List must be evaluated to determine if any areas for improvement are possible.

Responsiveness: The success of any emergency response situation or simulation can be best measured by the responsiveness of the agencies and personnel supporting the emergency (e.g., responders, railroad officials, etc.). Quick and effective response is the cornerstone of this Plan and a true measure of the level of preparedness of each responsible agency and/or organization.

Effective Passenger Egress: While every emergency situation or simulation may not require passenger evacuation, those that do must be evaluated. Passenger egress through emergency exits

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must be accomplished efficiently while ensuring maximum safety and minimum risk. Procedures for evacuation of persons with disabilities will also be evaluated.

Records: All records of debriefing and critique sessions will be maintained at the following:

- **Amtrak** - Corporate Office of Emergency Preparedness
- **MBCR** – Safety and Security Department

As a general matter of policy, MBCR and Amtrak shall make all records of debriefing and critique sessions available to interested parties, including but not limited to, representatives of the Federal Railroad Administration, state or local representatives, internal company auditors, and other such parties as required by applicable regulations. Access shall normally be provided during normal business hours of operation.

Emergency Exits

Marking of Exits: MBCR/MBTA and Amtrak complies with all federal regulations in 49 CFR Parts 223,238,239 with regard to emergency exit location, marking, etc. Additionally, APTA-SS-PS-002-99, Rev.2, Standard for Emergency Egress/Access of Passenger Rail Equipment will be used as guidance for the emergency signage. All emergency exits and means of egress (e.g. doors, windows) from every passenger train shall be clearly and legibly marked on the inside of the car with luminescent material and shall be adequately illuminated to facilitate passenger recognition and access.

Operating instructions for each exit shall be posted at or near the respective exit in clear, simple, and understandable language. Where possible and appropriate, pictograms may be used so long as proper exit operation is understandable (pictograms reduce the potential for misunderstanding by non-English speaking passengers).

All emergency egress door exits and windows shall be clearly marked with retro-reflective materials on the outside of the train so that emergency responders can quickly identify such exits. Instructions for operating the exits and removing the windows shall be posted in clear and simple language at or near the door exit and windows. If, upon Inspection, any of the rescue related markings or signage is missing or illegible they will be dealt with pursuant to 49 CFR 238.307and Part 238.113 (d)(1)(2).

Inspection, Maintenance and Repair: To ensure optimum readiness of all **emergency exits** and means of egress (doors and windows), shall be visually inspected daily. Once a defective or otherwise improperly operating emergency exit is identified through inspection or defect report, it shall be repaired or replaced/handled according to CFR 49, Parts 238.17 and 238.305 (c)(10)

In addition to daily inspections and regular maintenance, a representative sample of emergency window exits shall be inspected and tested not less frequently than every 180 days to ensure proper operation. Defective or otherwise improperly operating emergency window exits shall be repaired or replaced before the vehicle can return to passenger service pursuant to 49 CFR Part 238.303 (e) (18) (i).

Records: All records of inspection, repair, and maintenance of emergency window and door exits will be maintained at the appropriate MBCR/Amtrak mechanical facility. As a matter of policy, MBCR and Amtrak shall make all records of inspection, maintenance, and repair of emergency exits available to interested parties, including but not limited to, representatives of the Federal Railroad Administration, State or local representatives, internal company auditors and other such parties that may have a specified interest. Access shall normally be provided during normal business hours of operation. Where appropriate, electronic records of all inspection, maintenance, and repair of emergency doors and windows shall be maintained under limited access control.

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MBCR Commuter Rail Operation Map

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Attachments

Appendix 1

- Emergency Evacuation Procedures under Special Circumstances

Appendix 2

- MBCR Emergency Response Training for Control Center Personnel, Conductors and Onboard Train Personnel

Appendix 3

- MBCR Emergency Preparedness Training and Emergency Evacuation
- Procedures for Emergency Responders

Appendix 4

- MBCR Commuter Rail Evacuation of Persons with Disabilities Procedures

Appendix 5

- MBCR Debriefing & Critique Form

Appendix 6

- Amtrak Training
  1. Amtrak Prepare Training-Initial for T & E, OBS Personnel
  2. Amtrak & CSXT Emergency Response Training for Control Center Personnel
  3. Amtrak Emergency Training for Local Responders
  4. Amtrak Debriefing & Critique Form

Appendix 7

- Pan Am Railways Emergency Response Training Control Center Personnel

Appendix 8

- CSXT Emergency Response Training Control Center Personnel

Appendix 9

- Emergency Response Training for Iowa Pacific Holdings Network Operations Center, including the Massachusetts Coastal Railroad
- Operations Controls Centers Telephone Directory

Appendix 10

- NIMS Check list

Appendix 11

- MBCR/Amtrak, CSXT / Pan Am Railways and Massachusetts Coastal Railroad OCC–Emergency Telephone Directory

Appendix 12

- Excerpts from current MBCR and Amtrak Employee
- Timetable

  FS-1 Passenger Train Emergency Situations
  FS-2 Emergency Preparedness
  F-S3 Tunnel Emergency Evacuation Procedures
  FS-4 Train Explosion/Derailment

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F-E1 Salem Tunnel Emergency Exits

F-B1. Hingham Underpass – Emergency Exits, and the Refer current Amtrak Timetable

F-B1 Amtrak current Timetable Tunnel/Wall Emergency Exits (Forest Hills and Back Bay)

Appendix 1

Emergency Evacuation Procedures Under Special Circumstances

Purpose: MBCR developed these procedures in order to insure prompt and efficient response by employees and emergency responders to an emergency occurring in the tunnel area and when other special circumstances might occur.

These procedures will be provided to the Massachusetts Bay Transportation Authority (MBTA) and the applicable Fire and Police Departments.

Scope: These procedures will be utilized in the event of service interruption or emergencies such as a derailment or fire in which the potential for injury to passengers and/or employees exists. This plan applies to on-board, control centers, operations centers and emergency response personnel.

MBCR employees will receive training pursuant to this procedure at intervals specified in the Emergency Preparedness Plan.

General: Train Emergency Evacuation

The evacuation of passengers from a train into the tunnel should be conducted as a last resort in extreme emergencies. Evacuation is predicated upon the train crew's assessment of the situation.

1. The first choice is to determine if the train can continue out of the tunnel or corridor area.
2. The second choice is to evacuate passengers to the next car.
3. The third choice is to determine if the affected car can be easily cut out of the train consist (usually if the car is the rearmost car on the train) to allow the train to exit the tunnel.
4. The fourth choice is to evacuate passengers from the train to the outside via the doors.
5. The last choice is to evacuate passengers from the train to the outside via the emergency egress exits (emergency windows).

Tunnel Emergency Evacuation Procedures

(Reference: MBTA Commuter Rail Service Employee Timetable Special Instructions F-S3. Tunnel Emergency Evacuation Procedures)

The evacuation of passengers from a train, particularly in a tunnel, should be conducted only as a last resort in extreme emergencies. In an emergency, all employees must remain calm and respond in an efficient, concise, and professional manner.

In the event of a severe fire to standing equipment, accident, or other emergency occurring in a tunnel that would endanger the safety of passengers, immediate steps must be taken. Before the train crew attempts to detrain passengers or emergency personnel enter the tunnel area all movements must be stopped. Information that evacuation is being progressed must be immediately communicated to the appropriate dispatchers.

In the event of fire or emergency on trains moving through tunnels, every effort must be made to expedite the movement of the train out of the tunnel. Train crews must promptly establish communication with the engineer to discuss cooperative action towards keeping the train moving. The train must not be stopped unless there is reason to believe that derailment or personal injury may otherwise result.

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Fire on Board Train

In the event of a fire or smoke condition in a tunnel or on a train operating in the tunnel every attempt must be made to keep the train moving until it has cleared the tunnel.

The Train and Engine crew is responsible to promptly and accurately assess the nature of the problem. When a fire situation exists on the train, every attempt must be made to insure the safety and well being of the passengers involved. When possible, the crew should try to extinguish the fire with the fire extinguishers on board. If the fire cannot be extinguished, the following procedures are to be executed:

1. Train crewmembers must report fire or smoke conditions to the Engineer and Train Dispatcher. Any doors must be closed as quickly as possible and ventilation system shut down to prevent drawing smoke into the coaches.
2. The Conductor must maintain order and take appropriate steps to insure passenger comfort and information. Passengers in a coach in which a fire develops must be directed to an adjacent coach away from fire as quickly as possible.
3. The Train Dispatcher will prioritize train movement for that train immediately.

Steps for Evacuating the Train

1. Remain calm and assess the situation.
2. Notify the Train Dispatcher of plans to evacuate and to hold all train clear of the area. Check status of ventilation.
3. Notify passengers of emergency and evacuation plans.
4. Provide assistance to passengers as needed.
5. Double-check the coaches to insure that everyone is out.

Emergency Notification Procedures

The following sequence of the events must be followed in the event of an emergency in the tunnel area or cut section.

1. Conductor or Assistant Conductor notifies the locomotive engineer
2. The Engineer must arrange to notify the appropriate Operations Control Center (OCC) personnel, e.g., the Boston East Train Dispatcher by radio or the quickest means available and functional.
3. Upon receiving the initial notification, the Train Dispatcher will notify:

   a. MBTA Transit Police (617) 222-1212

   b. For **Salem Tunnel:** Salem **Fire** Department (978) 744-1234 or for **Back Bay Tunnel:** Boston Fire Department (617) 536-1500

   c. For **Salem Tunnel:** Salem **Police** Department (978) 744-1212 for **Back Bay Tunnel:** Boston Police Department (617) 343-4680

   d. MBCR Train Dispatch North-Side Commuter Rail Operation Control Center (CROCC) (617) 222-6115/6114)

   e. MBCR Train Dispatch South-Side Centralized Electrified Traffic Control Centre (CETEC) 617-222-8101/8102

   f. MBTA Operations Control Center (617) 222-5758

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g. MBCR Bridge & Building Dept. (617) 222-3617/3622

h. MBCR Trouble Desk (617) 222-3628

The applicable Train Dispatch North-Side CROCC/South-Side CETEC will be responsible for notifying the FRA.

Train Dispatch Checklists have been developed in accordance with MBCR requirements and MBTA contractual compliance to guide operations center personnel so that no notification is overlooked and that a record is made of all notifications, including notification sequence and information, including:

- Immediate notification of the requisite public emergency response agency then MBTA Police
- Immediate MBCR internal notifications and MBTA–specified officials to marshal resources to the site
- MBTA OCC and the MBTA Duty Officer
- Train and equipment numbers and exact location of incident
- Type of incident including cause, if known
- Number of passengers their condition
- Proposed response and actions taken

Tunnel Operations

When MBCR trains operate in tunnels of 1000 feet or more in length, specific emergency preparedness and response actions are required. Emergency situations occurring in tunnels can present unique readiness and response requirements. Specific tunnels are listed by name, location, and length in the applicable section of the Amtrak NEC Employee Timetable, and all MBCR and Amtrak train crews are trained as part of their EPREP training and made aware of all specific tunnels by name, location, and length. In general, tunnel emergency response actions are as follows:

Salem Tunnel Emergency Equipment and Statistics:

Salem Tunnel: Salem Tunnel has one tube **2176 ft.** long, Railroad direction is WEST to Boston, EAST to Beverly

Location: Mile Post 16.6 on the Eastern Route Main Line.

Walking Surface: Along trackside, grade level bench wall only located at the west end 150 feet in length then only gravel ballast floor.

Lighting: Entire length of tunnel.

Communications: Radio channel available is Roach channel 1414. There is a 75-watt railroad base station with an antenna is mounted to a mast at Salem Tower at the east end of the tunnel; it is controlled by the Operations

Control Center (OCC) Boston East dispatcher in Somerville, MA. (There are no police or fire repeaters). Note: Emergency responder radio channels will not work within the Tunnel area

Manholes/Stairways/Ladders: There is Pump room with a ladder that leads to manhole that exits into Riley Plaza

Standpipes: located at Riley Plaza

Emergency Equipment:

- Fire Extinguishers None
- Shovels/Bars/Picks/Axes: **None**
- First Aid Kits: **None**
- Breathing Apparatus: **None**

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Emergency Evacuation Plan:

Other Information

- Fresh air is forced into middle of tunnel and exits from both portals.
- Airflow is controlled by train dispatcher in Somerville, MA.

Back Bay Tunnel

Emergency Equipment, Statistics and Operating Environment:

The Back Bay Tunnel operating environment(s), from a fire safety point-of-view, includes the presence of the following factors/conditions:

Back Bay Tunnel: (Southwest Corridor)/three tracks, one tube/**4,277' long**.

Location: MP 226.9 on the NHB line.

Walking Surface: No bench wall, gravel ballast floor.

Lighting: Entire length of tunnel and cut area.

Communications: Telephones: one (1) telephone is located in the stair well of West Newton Emergency Escape Exit, Also outside the tunnel portal on the east end. Note: Emergency responder radio channels will work within the Tunnel area

Note: Tunnel equipped with coaxial cable to transmit radio signals in/out of tunnel

Radios: **None**

Manholes/Stairways/Ladders: The are three (**3**) Emergency Escape Exits at the following locations *West Canton Street*, *West Newton Street*, and *Albemarle street*.

Standpipes: All enclosed areas have a dry standpipe with connections located at all Emergency Escape Exits on the street surface for fire department connection.

Emergency Equipment:

- Fire Extinguishers None
- First Aid Kits: **None**
- Shovels/Bars/Picks/Axes: **None**
- Breathing Apparatus: **None**

Other Information

- Potential exposure to hazardous material (freight traffic, diesel fuel)
- Shared rail line and right of way usage
- Adjacent rail line – MBTA Orange Line rapid transit
- Other significant fire hazards posed by the operating environment include several small-enclosed areas due to overbuilds (Orange Line and Commuter Rail Stations)
- WHITE and RED emergency exit sign and are adjacent to the number two (#2) tracks.

Tunnel Wall Emergency Exits

The following information is located in the Amtrak NEC Employee Timetable F-B2 that all MBCR train crews carry on their persons while in passenger service. Due difficulty in accessing the below location there are cuts with stairs that access street level, Emergency Responders will receive direction from the applicable dispatch centre regarding any incident that may occur in accordance with the below mile posts.

Emergency exits are in service at the locations on track No.2 Track side of the Main Line – New Haven to Boston, between Forest Hills and Back Bay: Mile Post 223.87, 224.04, 224.23, 224.45,

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224.61, 224.76, 224.96, 225.11, 227.15 and 227.31. There is also an emergency telephone located at within the Cut Section West of Back Bay at Mile Post 227.6 Telephone No. 580-7594

Hingham Underpass - Emergency Evacuation Procedures

Due to the difficulties in emergency responder access the following should be considered in an event of any evacuation in Hingham Square Underpass. These procedures have been provided to the Massachusetts Bay Transportation Authority (MBTA) and the applicable Fire and Police Departments and briefed to all Managers and MBCR Train Crews.

Emergency Exits

Location: Hingham Underpass between Hersey Street Highway Rail Crossing and Water Street Highway Rail Crossing.

Enclosed Area: The Portal Area of Hingham Square Underpass from **South to North** is **792' ft.**

Open Area: The walking distance from the **North End** of the Portal to Hersey Street Highway Rail Crossing is **1, 664 ft.** The walking distance from the **South End** of the Portal to Water Street Highway Rail Crossing is **1, 235 ft.**

Walking Surface: bench wall, entire length of Pump house side within the Portal

No ballast it is a single track on a cement base.

Lighting: Entire length of Portal area only.

Communications: Telephones: Three telephones are located within the portal area on the pump hose side two at the south end of the portal and one at the North end of the portal.

Radios: Emergency responder and Train crew radios will work with the Portal area and the open area

Stairways and Exits: Located at the Pump House there is an Emergency Escape Exit that is only to be used by emergency responders only.

Note: Train Crews are instructed to only exit via the North or South end of the Portal unless assisted by emergency responders.

Standpipes: There are seven emergency responder Hose attachments located opposite the pump house side through the portal area a standpipe is located above the portal area so the hose attachments can be used.

Emergency Equipment: There are seven **(7)** Fire Extinguishers located with the portal area

- Shovels/Bars/Picks/Axes: **None**
- First Aid Kits: **None**
- Breathing Apparatus: **None**

Other Information

- All emergency egress exits within the Hingham Underpass Portal are marked with BLUE and WHITE retro-reflective exit signs on both sides within the portal area. These sighs indicate distance to end of portal North/ South and location of telephones.

Categories of Equipment and Service

- Trains consist of one or two diesel-powered locomotives designed to carry up to 1500 gallons of diesel fuel. The emergency fuel shut-off is marked on the fuel tank.
- Passenger coaches may be any of four varieties: Kawasaki, MBB, Bombardier, and Pullman. All have the same requirements for emergency tools and emergency lighting and egress, that is:

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- Fire extinguishers
- One First Aid kit per train
- One pry bar per coach
- 4 emergency exit windows per car level

› Station/tunnel fire suppression: Fire Extinguishers: Located in Back Bay Commuter Rail Station.

Emergency Notification Procedures

In an emergency, employees must remain calm and respond in the professional manner in which they have been trained.

The following is the required notification precedence that must be followed in an emergency in the tunnel area.

1. Conductor or Asst. Conductor to notify the engineer that an emergency situation exists and briefly describe the emergency.
2. The engineer must notify, by the quickest available means, the Operations Control Center (staffed by Chief Train Dispatcher) in Boston CETEC of the emergency.
3. Upon receiving the initial notification, the Chief Train Dispatcher and the trick dispatcher will notify other trains in the area and, if possible, route the train with the emergency out of the tunnel/corridor area. Then notification of the following must be made:

› Boston Police, Fire, and EMS 9-911

› MBTA Transit Police 617-222-1212

› CSXT Chief Train Dispatcher Selkirk, NA Dispatcher 518-767-6102, In the event of an emergency if the Train Dispatcher cannot be immediately contacted by radio, the Train Crew should contact CSXT PSCC by telephone if available at 1-800-232-0144.

› MBCR Manager Transportation 617-222-3650

› MBTA Operations Control Center 617-222-5758

› MBCR Radio Room 617-222-3628

› MBCR Safety Department 617-222-8360

› MBCR Customer Service 617-222-8239

Information that evacuation is being initiated must be immediately communicated to the CSXT Operations Control Center in Selkirk.

In the event of fire or emergency situation on trains moving through the tunnels, every effort must be made to expedite the movement of the train out of the tunnel. Train crews must promptly establish communication with the train's engineer to discuss cooperative action towards keeping the train moving. *The train must not be stopped unless there is reason to believe that derailment or personal injury may otherwise result. If the train cannot be moved, the diesel locomotive engine(s) must be shut down within five (5) minutes to minimize the effect of smoke and fumes.*

Emergency Exits (unless otherwise indicated) are on the Track # 5 - 7 side of the tunnel and are clearly marked with an EXIT sign. In tunnel areas a fluorescent light indicates the tunnel/station egress point.

Steps in Evacuating a Train

Non-Life Threatening:

1. Notify the train dispatcher of plans to evacuate and ensure a hold on all trains, unless a train to train transfer is required. If radio communication has failed, dispatch a crewmember to make the required notification.
2. Locate emergency exits at locations, unless a train to train evacuation is desired. All emergency egress exits are marked with a WHITE and RED emergency exit sign and are adjacent to the number two (#2) tracks.

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3. Injured passengers as well as those requiring special needs (the very young, old, and/or disabled), will be located and assistance shall be provided to the maximum extent possible under given circumstances. Provide assistance to passengers as needed.

4. Crewmember must ensure that access to emergency exits is clear and unobstructed. Crewmembers must assess possible exit routes, both inside and outside the train (e.g., availability and status of benchwalls), to determine their condition and ability to support a full train evacuation. Evacuation shall occur in a calm and orderly fashion.

5. Evacuate cars starting with the car closest to the emergency egress exit. Double-check the car(s), including restrooms, to ensure that everyone is out.

6. Crewmembers must evaluate the need for emergency lighting and provide such if necessary using on-board emergency light devices (employee flashlights, battery-powered lamps, etc.).

Note: The Train Conductor will keep passengers and crewmembers informed of the nature of the emergency situation and the status of corrective countermeasures, rescue efforts, and emergency response. Information provided to the passengers will be kept brief and concise. However, crewmembers require as much detail as possible to do their jobs, so personnel should be briefed away from the passengers. If operable, the on-board Public Address (PA) System should be used to make general announcements to passengers. Otherwise bullhorn and/or car-to-car verbal briefings may be necessary to ensure adequate dissemination of information. It is important to brief ALL passengers to reduce the potential for panic and to determine their availability in case the crew requires additional assistance.

Due to Fire:

In the event of a fire or smoke condition in a tunnel or on a train operating in the tunnel or corridor section of the Southwest Corridor, every effort must be made to keep the train moving until it has cleared that section of the tunnel/corridor. When a fire situation exists on the train, every attempt must be made to ensure the safety and well-being of the passengers and employees involved. When possible, the crew should try to extinguish the fire with the fire extinguishers on-board. Do not attempt to extinguish any fire on the roof of rail equipment. If fire cannot be extinguished, the following procedures are to be utilized:

1. Notify the train dispatcher of plans to evacuate and ensure a hold on all trains in the area. If radio communication has failed, reference page 8 for locations of railroad phones and dispatch a crewmember to make the required notification.

2. From the initial on-set of the emergency situation, there must be a fully coordinated execution of this plan by the Train Conductor, Engineer, and other crewmembers to assure passenger safety and comfort. Notify passengers of the emergency and the evacuation plans.

3. If train is being evacuated in the tunnel section and is powered by a diesel locomotive, the diesel engine(s) should be set to standby mode to reduce passenger exposure to smoke and fumes even if tunnel ventilation is operational. If tunnel ventilation is non-operational, then the diesel locomotive engine(s) must be shut down within five (5) minutes.

4. Locate emergency exits at locations. All emergency egress exits are marked with a WHITE and RED emergency exit sign and are adjacent to the number # 5 or 7 track.

5. Injured passengers as well as those requiring special needs (the very young, old, and/or disabled), will be located and assistance shall be provided to the maximum extent possible under given circumstances. Provide assistance to passengers as needed.

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6. Crewmember must ensure that access to emergency exits is clear and unobstructed. All means to egress (detrain) must be made ready and available (e.g., ladders, stairs, etc.). Crewmembers must also assess possible exit routes, both inside and outside the train (e.g., availability and status of benchwalls), to determine their condition and ability to support a full train evacuation.

7. Evacuate cars starting with the car closest to the fire. Do not allow passenger to take any personal belongings. It could be cumbersome and impede evacuation. Evacuation to another car may be desirable, as long as it does not expose passengers to injury. The second car away from the fire should be evacuated at the same time from the furthermost end of the car to prevent overcrowding and to establish a steady flow of evacuees. Double check the car(s), including restrooms, to insure that everyone is out.

8. Do not lead passenger into fire or smoke to gain access to an emergency exit.

9. Crewmembers must evaluate the need for emergency lighting and provide such if necessary using on-board emergency light devices (employee flashlights, battery-powered lamps, etc.).

Emergency Exits

Enclosed Area: Exit at each end of Back Bay Station Platform, West end ladder exits through stairs into station, east end ladder exits up stairs to Clarendon St.

Appendix 2 - MBCR Emergency Response Training – Control Center Personnel/ Conductors and On-Board Train Personnel

MBCR COURSE DESCRIPTION

Course Name:	***Emergency Preparedness / Security Training***
Course Number:	T20007
Objective:	As required by CFR 49 Part 239.
Method:	Classroom Instruction
Outline:	o Identification of various emergencies (medical, fire, etc.) o To whom and how to make notification o Emergency equipment locations o Evacuation procedures and concerns o System security procedures (threats, packages, etc.) o Quiz
Validation: (if applicable)	Quiz
Course Length:	4 hours
Target Audience:	Conductors, Assistant Conductors, Engineers, Dispatchers and those who supervise.

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Appendix 3 - MBCR Emergency Preparedness Training for Emergency Responders/MBCR Course Description

Course Name	Emergency Preparedness
Course No.:	SD01
Objective:	To provide Training for Police, Rescue & Firefighters Emergency Responders and to ensure familiarization of MBTA Passenger Rail equipment, Also to ensure familiarization of the operating system of MBCR and joint operations and a safety Hazards on the right of way.
Method:	3 hour Classroom Instruction, Power Point and Video
Outline:	The classroom course provides the following orientation: › Overview of railroad operations in general; passenger train operations › Railroad right-of-way safety precautions › Emergency contact numbers › Equipment familiarization › Passenger car construction › Passenger evacuation › Forcible entry and extraction › Locomotion propulsion systems › Train crew orientation › Hazards: electrical, pneumatic and others › On-board communications › Locations and use of emergency exit windows and doors › Search and Rescue and fire suppression › Typical train consists › Hazardous materials › Grade crossing accident & trespassing on railroad property › Bridges and Tunnels › Typical emergencies to which law enforcement, fire/rescue, EMS and emergency management personnel will likely attend **The classroom orientation can be integrated with:** › Hands-on-familiarization; depending upon availability of vehicles **Drill or exercise set up by the MBTA in coordination with MBCR.**
Validation:	Safety and Security Director
Length:	2-3 Hours (Classroom)
Target Audience:	Emergency Responders

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Appendix 4 - MBCR Commuter Rail Evacuation of Persons with Disabilities Procedures

Train Evacuation & Consideration For Persons with Disabilities

When evaluating a train evacuation, the MBCR Conductor and/or the onboard train crew must give consideration to persons with disabilities. If the situation is critical, passengers must be evacuated using any means necessary below is a guide for dealing with disabled persons.

(Under no circumstances will passengers be evacuated along the right of way, between stations for any reason less than an emergency situation. However if an emergency situation does occur all passengers must be evacuated by any means necessary).

However, non-emergency situations such as; mechanical failures or damage to tracks may strand passengers on a train for long periods of time. It is not an acceptable level of risk to have passengers disembark along the right of way for non-emergency situations (Refer to MBCR Timetable Special Instruction F- S1.Passenger Train Emergency Situations; F-S2. Emergency Preparedness)

1. Non-Emergency Evacuations

Therefore, other options must be considered when evacuating in a non-emergency situations, for example:

- If a train is unable to proceed to a station, the use of a rescue set of equipment, including a train in passenger service or light locomotive may be employed to bring the stranded train to station where passengers can safely disembark.
- If it becomes necessary to disembark passengers for a non-emergency situations and the train is able to move to a road crossing, passengers could be assisted off the train at the more level onto and solid surface of the crossing. Road traffic should be stopped to ensure passenger safety. A portable step should be used, if available
- If the stranded train is in a remote location, and it becomes necessary to disembark passengers, the train crew must evacuate an option that may be employed is to use a rescue set. Train crew must evacuate passengers via an attended car door and escort the passengers onto the rescue set car door that is also attended by train crew.

The Conductor and/or the onboard train crew must give consideration to persons with disabilities, such as those in wheel chairs and the elderly when evacuating in a non-emergency situation a disabled passenger may not be able to transfer to equipment in remote locations or disembark at road crossings.

2. Consideration For Persons with Disabilities

Here are some considerations that may be helpful in the event you have to assist a person with disabilities during a train evacuation in a life threatening or Non life threatening situation.

When assisting visually impaired passengers:

- Never take hold of a person using a white cane without first telling the person who you are, what you plan to do and you receive acknowledgement.
- Never take hold of or move a person's white cane until you have told the person exactly what you are doing and why, and you receive acknowledgement.
- When leading, stand on the side opposite the white cane
- Always stay one-half pace ahead of the person you are leading. Remember, if you forget to tell the person the direction of movement, the one-half pace will allow the person to follow the movement of your body.
- Remember to first tell the passenger the direction of movement (up, down, over) and then the distance of movement (for example, step down six inches)

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- Remember; drop your lead arm back when you and the person are walking through narrow areas. (Be sure to tell the person what you are doing).
- Be alert to changes in the regularity of the environment (different heights of steps, changes from hard to soft surfaces, etc...).
- Inform the person of changes in the terrain and call out maneuvers to be made (going up steps, etc...)
- Remember the three orientation points for your passenger to enter or exit a vehicle: the door, door sill, and the vehicle seat.

Other consideration when assisting **visually impaired passengers**:

- Ask if you may assist
- Usually the impaired person will hold onto your elbow
- If necessary to take hold of a visually impaired individual, make sure they first know why you are assisting them and how you will assist them.
- Speak directly to the visually impaired person.
- Remember, not all visually impaired persons carry a white cane. Some are assisted by service animals. Others use nothing at all.

When assisting speech impaired passengers:

- Do not acknowledge that you understood what a person has said, if in fact you have not
- Repeat what you "thought" the person said. This gives the person a chance to confirm or deny or deny your interpretation of what was said.
- Ask the person to repeat the part you are having trouble understanding. Remember, a person with communication difficulties is quite used to being misunderstood and will appreciate the fact that you are making an effort to fully understand.
- Put the person at ease when you ask the person to repeat something. If a person becomes tense, almost any type of speech impediment will become worse.

The Conductor and/or the onboard train crew must give consideration to persons of persons with disabilities, such as those in Wheel chairs and the elderly if it is not a life threatening event may not be able to transfer to equipment in remote locations or disembark and road crossing.

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Appendix 5 - MBCR Debriefing & Critique Form

EXAMPLE	
Title of Plan/Procedure Activated:	
Date of Critique/Debrief	Location of Critique/Debrief:
Date of Activity:	Location of Activity:
Type of Activity: Y/N Drill Y/N	Actual Incident (Nature of Incident)
Participants in Critique/Debrief: (attach as necessary)	
Units/Departments Participating: (Railroad & Emergency Responders)	
EVENT	
Facts of Event (what happened):	
Time Line:	
Identify Amtrak personnel involved:	
Identify all third parties involved:	
COMMUNICATIONS	
Type(s) of on-board communications equipment:	
Status of on-board communications equipment:	
Time and means of first notification of event to Amtrak Control Center:	
Time(s) and means Control Center initiated required communications, and to whom:	
EMERGENCY RESPONSE	
Identify all emergency responders participating following event:	
Time(s) and manner or response by emergency responders following notification:	
Was passenger evacuation undertaken?	
If so, describe, including time and manner initiated, means of evacuation, time evacuation completed, and all other pertinent details:	
Nature of emergency care provided to Amtrak personnel, passengers, and other individuals following event:	
POST-EVENT ANALYSIS	
Did the on-board communications equipment function properly?	
How much time elapsed between the event and notifications to the emergency responders?	
Did the Control Center promptly initiate the required notifications?	
How quickly and effectively did the emergency responders respond following notification?	
If passenger evacuation occurred, was it accomplished efficiently through emergency exits?	
Additional remedial comments, if appropriate:	

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Appendix 6

1. Amtrak Prepare Training-Initial for T & E, OBS Personnel

Passenger Railroad Emergency Preparedness and Response Education

COURSE DESCRIPTION

The purpose of this course is to prepare operating and on-board crews in the event of a train emergency. The course defines various emergency situations and describes locations in which they are likely to occur. Participants team about the appropriate actions to take when an emergency happens.

Communication procedures are stressed for both passenger information and notification to control centers as well as interaction with outside responders. Material in this course focuses on key areas such as:

- Rail equipment familiarization
- Situational awareness
- Passenger evacuation
- Coordination of functions / operations
- Emergency care

Amtrak's emergency preparedness plan is reviewed. On-site assessment of the individual emergency situation is covered. Special considerations are addressed in the areas of tunnels, elevated structures, bridges, and electrified territory.

PA system utilization and manifest delivery to the outside agency Incident Commander receive special emphasis.

Emergency care for injured customers and employees is covered to include key areas such as:

- Cardiopulmonary resuscitation
- Injury and illness situations
- Prevention of disease transmission (BBP)

Training frequency:

- Part of new hire training onboard employees
- Initially upon introduction of course and renewed every two years

Class enrollment should be limited to 8 participants. Larger sizes can be accommodated with co-instructors through application of the following ratio

NUMBER OF PARTICIPANTS	NUMBER OF INSTRUCTORS
Up to 7	1
Up to 14	2
Up to 21	3
Up to 28	4
Beyond 25	Class is to large – divide in 2 classes

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COURSE OBJECTIVES

After successfully completing this course, each participant will be able to:

1. Identify their individual role in an emergency (in accordance with their job position).

2. Communicate with passengers and crew utilizing the PA system.

3. Identify emergency equipment on specific rail equipment to which assigned.

4. Identify emergency operating features on specific rail equipment to which assigned.

5. Effectively operate a fire extinguisher.

6. Effectively utilize available emergency tools and lighting devices.

7. Assess the emergency situation to understand the magnitude of the role they must play.

8. Effectively open emergency doors and remove emergency windows.

9. Safely evacuate passengers (and crew) from rail equipment.

10. Provide proper emergency care for all injury and illness situations.

11. Effectively use devices to control disease transmission.

12. Provide emergency care to facilitate cardiopulmonary resuscitation.

13. (If job position includes) Communicate effectively with control centers to key information related to an emergency.

14. (If job position includes) Communicate effectively with outside emergency responders as liaison until senior railroad official arrives.

15. (If job position includes) Provide passenger and crew manifest along with mail & express service contents to Incident Commander.

16. Effectively utilize all information on Material Safety Data Sheets for all chemicals on-board.

17. Reportability? Telephonic Notification? NRPC fortes? Spill reduction?

2. Amtrak Emergency Response Training for Control Center Personnel Amtrak Emergency P.R.E.P.A.R.E. Training-Initial Control Center Personnel Passenger Railroad Emergency Preparedness and Response Education

COURSE DESCRIPTION

The purpose of this course is to prepare control center personnel in the event of a train emergency. The course defines various emergency situations and describes locations in which they are likely to occur. Participants team about the appropriate actions to take when an emergency happens. Communication procedures are stressed with the control centers serving as the main link between the on-board crews and the emergency responders. Material in thus course focuses on key areas such as

- The emergency plan, and how we fit
- Situational awareness
- Communication locations, territories and responsibilities
- Terrorist response

Amtrak's emergency preparedness plan is reviewed.

This course is presented through a facilitated and interactive classroom environment. Participants practice the skills after association with demonstrations and role-play.

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Participants are evaluated through objective written testing along with "hands-on" instruction and skill evaluation.

Training frequency:

1. Part of new hire training control center employees
2. Initially upon introduction of course and renewed every two years

COURSE OBJECTIVES

After successfully completing this course, each participant will be able to:

1. Identify their individual role in an emergency (in accordance with their job /position).
2. Assess the emergency situation to understand the magnitude of the role they must play.
3. (If job / position includes) Communicate effectively with on-board crews to provide key information related to an emergency.
4. (If job / position includes) Communicate effectively with outside emergency responder as liaison until senior railroad official arrives.
5. Describe how to respond properly to a bomb emergency.
6. Define the guidelines for a debriefing / critique.

P.R.E.P.A.R.E.

Passenger Railroad Emergency Preparedness and Response Education

COURSE DESCRIPTION

PREPARE 2006 is a refresher course designed to compliment PREPARE 2000. In PREPARE 2006; participants will revisit procedures and techniques to be used by operating and on-board crews in the event of a train emergency. The course defines various emergency situations and describes locations in which they are likely to occur. Participants will discuss appropriate actions to take when an emergency happens. Communication procedures and responsibilities are stressed for both passenger information and notification to control centers as well as interaction with outside responders. Material in this course focuses on key areas such as:

- Rail cars and emergency equipment familiarization
- Situational awareness
- Coordination of functions / operations
- Passenger evacuation
- Tunnel emergencies
- Hazardous material awareness
- Safety and security awareness
- Emergency care

On-site assessment of the individual emergency situation is covered. Special considerations are addressed in the areas of tunnels and hazardous materials.

Public Address system utilization and delivery of information to an outside agency Incident

Commander receives special emphasis.

Emergency care for injured passengers and employees includes:

- Automatic Electronic Defibrillator

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This course is presented through a facilitated and interactive classroom environment. Participants practice skills after discussion and demonstrations.

Participants are evaluated through skill evaluation. Participants are also given a written exam covering key components of the program.

Updated course is presented every two years.

COURSE OBJECTIVES

After successfully completing this course, each participant will be able to:

- Assess an emergency situation to understand the magnitude of the role they must play
- Identify their individual role in an emergency in accordance with their job / position
- Communicate effectively with control centers to provide key information related to the emergency (if job / position includes this responsibility)
- Communicate effectively with outside emergency responders as liaison until senior railroad officials arrive (if job / position includes this responsibility)
- Provide passenger and crew information to Incident Commander
- Communicate with passengers and crew utilizing various methods of communication, including the Public Address system
- Identify and discuss the use of emergency systems and equipment
- Review the safe and effective operation of a fire extinguisher
- Review the proper operation of removing emergency windows
- Discuss safe evacuation procedures
- Understand proper evacuation procedures to be used during a tunnel emergency
- Provide proper emergency care during injury and illness situations
- Effectively use personal protective equipment

COURSE OUTLINE

Lesson I

- Introduction
- Welcome
- Safety Briefing
- Code of Conduct
- Housekeeping
- Program Objectives

Lesson II

- PREPARE
- What is PREPARE
- CFR Definition
- Train Emergencies
- Service Emergencies

Lesson III

- Roles
- Individual Roles
- Amtrak Incident Command Structure
- Responder's Incident Command Structure
    1. Interacting with Responders

Lesson IV

- Emergency Equipment
    1. On-Board Emergency Equipment

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Lesson V

- Emergency Situations
  1. Derailment
  2. Fire
  3. Evacuation
  4. Emergency Windows
  5. Tunnel Evacuation
  6. Police Emergency
  7. Bomb Threats
  8. Suspicious Packages
  9. HazMat

Lesson VI

- Safety and Security
  1. Safety vs. Security
  2. Employee Responsibilities
  3. Amtrak Police Recommendations

Lesson VII

- Summary
  1. Train Emergencies
  2. Evacuation Procedures
  3. On-Board Fire Procedures
  4. Bomb Threat and Suspicious Package Procedures

Lesson VIII

- Emergency First Care
  1. Dealing with Medical Emergencies
  2. Action Plan
  3. Emergency Medical System
- Supporting Life – ABCS Airway
  - Breathing
  - Circulation
  - Spine
  - Communicate
  - Avoid Harm
  - Re-Examine
  - Encourage

Lesson X

- AED and CPR
  1. Presented by an outside agency

INSTRUCTIONAL RESOURCES

- PowerPoint presentation
- Participant handouts (PowerPoint presentation printed in "handout" format)
- Fire extinguisher
- First Aid kit

INSTRUCTIONAL EQUIPMENT

- Flipchart easel, pads and markers
- White Board (if room is equipped) and markers
- Computer and projector for PowerPoint presentation
- TV / VCR

REFERENCE MATERIAL

- PREPARE 2000 course CSE-102
- PREPARE 2002 course 50133543
- PREPARE 2004 course 50175965
- Emergency Situations course CSE-001

ARCHIVE LOCATION

- Amtrak, Employee Development, One High Speed Way, Wilmington, DE

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3. Training for Local Responders Amtrak Emergency Training for Local Responders Training for Police, Rescue, and Firefighters

This 4-hour classroom course provides the following orientation:

- Overview of railroad operations in general; passenger train operations in particular
- Railroad right-of-way safety precautions
- Emergency contact number Equipment familiarization
- Passenger car construction
- Passenger evacuation
- Forcible entry & extrication
- Locomotive propulsion systems
- Train crew orientation
- Hazards: electrical & pneumatic and others
- On-board emergency equipment
- Location & use of emergency exit windows & doors
- Search & rescue and fire suppression
- Typical train consists and passenger loads
- Hazardous materials
- Grade crossing accidents & trespassing on railroad property
- Bridges & tunnels
  - Typical emergencies to which law enforcement, fire/rescue, EMS, and emergency management personnel will likely respond

This classroom orientation can be integrated with a hands-on familiarization-depending upon the availability of cars and locomotives-and a practical drill or exercise set up by the emergency response agency.

4. AMTRAK DEBRIEFING & CRITIQUE FORM

See page 3-49 of this section for sample form.

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Appendix 7 - Emergency Response Training for Pan Am Railways Control Center Personnel

COURSE DESCRIPTION

The purpose of this course is to prepare Control Center Personnel in the event of an emergency. The course defines various emergency situations and describes locations in which they are likely to occur. Participants learn about the appropriate actions to take when an emergency happens. Communication procedures are stressed between train crewmembers and the train dispatchers as well as the internal communication within the control center and outside agencies. Material in this course focuses on key areas such as:

- Purpose and scope of Emergency Preparedness Plan
- Provisions of the Plan
- Training/Testing
- Communication
- Dispatch Territory Familiarization with emphasis on areas of concerns such as, passenger service and train rides to respond to directions for first responders
- Appropriate course of action for each potential emergency situation

This course is presented through a facilitated and interactive classroom environment. Participants practice the skills after association with demonstrations and role-play.

Participants are evaluated through objective "hands-on" instruction and skill evaluation.

Training frequency: Part of new hire training Control Center employees Initially upon introduction of course and renewed every two years

COURSE OBJECTIVES

After successfully completing this course, each participant will be able to:

1. State the agency that mandates railroads to educate CCP on the Emergency Preparedness Plan.
2. State the purpose and scope of the Code of Federal Regulation (CFR 239).
3. Define a Control Center as it relates to the EPP.
4. List the types of trains affected by the EPP.
5. Use a timetable to locate tunnels of 1,000 feet or more, elevated structures or any other special circumstance such as Passenger service areas on PAR territory that would have a significant impact should a train have an emergency or situation.
6. Describe various situations that would constitute a train emergency or emergency situation.
7. Describe the Notification Chain for Control Center personnel in the event of a train emergency or situation.
8. Demonstrate the Notification Chain relating to various emergency situations.

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AMTRAK PASSENGER TRAIN EMERGENCY PREPAREDNESS PLAN
THE DOWNEASTER

PAN AM RAILWAYS
CONTROL CENTER PERSONNEL TEST

Name:_____ **Date:**_____

1. The Federal Railroad Administration published the Passenger Train Emergency Preparedness Final Rule in the Code of Federal Regulations on May 4th 1998. This Rule is located at _____ _____.

2. It is the responsibility of every Amtrak and Pan Am Railways _____to ensure that passenger train guest and others who may have been involved in the emergency receive medical assistance, care, and the immediate cooperation in safely completing their travel to their intended destination.

3. The function of this joint Pan Am Railways and Amtrak Emergency Response Plan is to provide comprehensive _____as necessary under the direction of the senior railroad official, their designee, or other local emergency responders present.

4. The plan along with attachments and appendices is the controlling document to be used during any passenger train emergency situation that may occur during the course of normal operating conditions where Pan Am Railways is the _____ _____.

5. The Pan Am Railways are the host railroads for the movement of Amtrak trains between Portland _____ (MP 196) and Atkinson, _____ (MP274.55).

6. What does CNOC stand for? _____ _____ _____

7. What is the name for the main traffic control and dispatching function for a specific territory? _____ _____

8. State the agency that mandates railroads to educate Control Center Personnel on the Emergency Preparedness Plan._____ _____

9. Part of the Responsibilities of Pan Am Railways is to coordinate with emergency response agencies, as well as Federal, State and Local agencies. True or False.

10. New employee training is conducted within 90 days. Refresher training will be conducted every two years. True or False.

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Appendix 8 - CSXT Emergency Training for Control Center Personnel

Passenger Railroad Emergency Preparedness and Response Education

COURSE DESCRIPTION

The purpose of this course is to prepare Control Center Personnel in the event of a Passenger train emergency. The course defines various emergency situations and describes locations in which they are likely to occur. Participants learn about the appropriate actions to take when an emergency happens. Communication procedures are stressed between train crewmembers and the train dispatchers as well as the internal communication within the control center and outside agencies. Material in this course focuses on key areas such as:

- Purpose and scope of Emergency Preparedness Plan
- Provisions of the Plan
- Training/Testing and Annual Simulations
- Communication
- Dispatch Territory Familiarization with emphasis on special circumstances concerning areas of tunnels, elevated structures, bridges, and electrified territory
- Appropriate course of action for each potential emergency situation

This course is presented through a facilitated and interactive classroom environment. Participants practice the skills after association with demonstrations and role-play. Participants are evaluated through objective written testing along with 'hands-on instruction and skill evaluation.

Training frequency:

- Part of new hire training Control Center employees
- Initially upon introduction of course and renewed every two years

COURSE OBJECTIVES

After successfully completing this course, each participant will be able to:

1. State the agency that mandates host railroads to participate in a Passenger Train Emergency Preparedness Plan (PTEPP)
2. State the purpose and scope of the Code of Federal Regulation (CFR 239) PTEPP
3. Define a Control Center as it relates to the PTEPP
4. List the 4 Control Center cities that participate in the PTEPP
5. List the types of trains affected by the PTEPP
6. Use a timetable to locate tunnels of 1,000 feet or more, elevated structures or any other special circumstance on CSX territory that would have a significant impact should a passenger train have an emergency or situation
7. Describe various situations that would constitute a passenger train emergency
8. Describe the Notification Chain for Control Center personnel in the event of a passenger train emergency or situation
9. Use the Passenger Train Emergency check list to obtain pertinent initial information relative to a passenger train emergency or situation
10. Demonstrate the Notification Chain relating to various emergency situations

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Appendix 9 - Emergency Response Training for Iowa Pacific Holdings Network Operations Center, including the Massachusetts Coastal Railroad

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Iowa Pacific Holdings

Emergency Response Training for Iowa Pacific Holdings Network Operations Center

Course Overview

COURSE DESCRIPTION

The purpose of this course is to prepare Network Operations Center personnel in the event of an emergency. The course defines various emergency situations and describes locations in which they are likely to occur. Participants learn about the appropriate actions to take when an emergency happens. Communication procedures are stressed between train crewmembers and the train dispatchers as well as the internal communication within the Network Operations Center and outside agencies. Material in this course focuses on key areas such as:

- Purpose and scope of Emergency Preparedness Plan
- Provisions of the Plan
- Training/Testing
- Communication
- Dispatch Territory Familiarization with emphasis on areas of concerns such as, passenger service and video routes to respond to directions for first responders
- Appropriate course of action for each potential emergency situation

This course is presented through a facilitated and interactive classroom environment. Participants practice the skills after association with demonstrations and role play.

Participants are evaluated through objective "hands-on" instruction and skill evaluation.

Training frequency: Part of new hire training Control Center employees Initially upon introduction of course and renewed every two years

COURSE OBJECTIVES

After successfully completing this course, each participant will be able to:

1. State the agency that mandates railroads to educate NOC personnel on the Emergency Preparedness Plan.
2. State the purpose and scope of the Code of Federal Regulation (CFR 239).
3. Define a Control Center as it relates to the E-Prep.
4. List the types of trains affected by the E-Prep.
5. Use a timetable to locate tunnels of 1,000 feet or more, elevated structures or any other special circumstance such as Passenger service areas on IPH territory that

Iowa Pacific Holdings

would have a significant impact should a train have an emergency or situation.
6. Describe various situations that would constitute a train emergency or emergency situation.
7. Describe the Notification Chain for NOC personnel in the event of a train emergency or situation.
8. Demonstrate the Notification Chain relating to various emergency situations.

IPH PASSENGER TRAIN EMERGENCY PREPAREDNESS PLAN
THE CAPE FLYER

IOWA PACIFIC HOLDINGS
NETWORK OPERATIONS CENTER PERSONNEL TEST

Name:_____ **Date:**_____

1. The Federal Railroad Administration published the Passenger Train Emergency Preparedness Final Rule in the Code of Federal Regulations on May 4th 1998. This Rule is located at _____.

2. It is the responsibility of every IPH and MBTA _____to ensure that passenger train guest and others who may have been involved in the emergency receive medical assistance, care, and the immediate cooperation in safely completing their travel to their intended destination.

3. The function of this joint Iowa Pacific Holdings and Massachusetts Bay Commuter Railroad Emergency Response Plan is to provide comprehensive _____ _____as necessary under the direction of the senior railroad official, their designee, or other local emergency responders present.

4. The plan, along with attachments and appendices, is the controlling document to be used during any passenger train emergency situation that may occur during the course of normal operating conditions where Iowa Pacific Holdings is the _____ _____.

5. The Iowa Pacific Holdings railroad (Mass Coastal RR) is the host railroad for the movement of Massachusetts Bay Commuter Railroad trains between Station Bay, _____ (MP 36.30) and Hyannis, _____ (MP_____).

6. What does CETC stand for? _____

Iowa Pacific Holdings

7. What Appendix of the Joint Emergency Preparedness Plan can the emergency telephone directory be found in? _____

8. At a minimum MBCR/MBTA and Amtrak will plan, schedule, conduct, and evaluate one full-scale emergency simulation on a selected route per _____ _____.

9. Part of the Responsibilities of Mass Coastal Railroad is to coordinate with emergency response agencies, as well as Federal, State and Local agencies. True or False.

10. New employee training is conducted within 90 days. Refresher training will be conducted every two years. True or False.

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Appendix 10 - NIMS Compliance Checklist

MBCR / AMTRAK STANDARD CRITIQUE FORM

NIMS COMPLIANCE (National Incident Management System)

Command and Management:

Was the activity conducted utilizing:

Incident Command System: ☐ yes ☐ no

Unified Command System: ☐ yes ☐ no

Public Information System: ☐ yes ☐ no

Preparedness

Prior to the exercise, drill or incident was:

Sufficient planning and training conducted? ☐ yes ☐ no

Adequate personnel qualified and certification standards met? ☐ yes ☐ no

Was proper equipment that meets certification standards utilized? ☐ yes ☐ no

Were Mutual Aid Agreements and Emergency Management Assistance Compacts completed? ☐ yes ☐ no

Resource Management

Were there defined standardized mechanisms and requirements for inventorying, mobilizing, dispatching, tracking, and recovering resources over the cycle of the exercise, drill or incident? ☐ yes ☐ no

Communication and Information Management

Did a standardized framework for communications, information management, and information sharing support all levels of incident management? ☐ yes ☐ no

Supporting Technologies

Did technology and technological systems provide adequate supporting capabilities for:

Voice and data communications systems ☐ yes ☐ no

Information Management System (recordkeeping and resource tracking) ☐ yes ☐ no

Data display systems ☐ yes ☐ no

Preparer Information

Date:	Evaluator:
Phone:	E-Mail Address:

Appendix 11 - MBCR/Amtrak, CSXT / Pan Am Railways and Massachusetts Coastal Railroad OCC - Emergency Telephone Directory

The below numbers are the quickest means to stop trains in an emergency event, Emergency responders should ensure they remain on the line until confirmed trains have been stopped.

MBCR Train Dispatch Commuter Rail Operation Control Center (CROCC) North-Side – Tel: (617) 222-6114/6115)

MBCR Train Dispatch Centralized Electrified Traffic Control Centre (CETEC) South-Side Tele: 617-222-8101/8102

CSXT - PSCC 1-800-232-0144

CSXT - Dispatching Center, Selkirk 1-518-767-6900

Amtrak Train Dispatch Centralized Electrified Traffic Control Centre (CETEC) Tel: 800-243-1255

Pan Am Railways – North Billerica, Dispatching Centre Tel: 800-955-9208

Mass Coastal Railroad – Iowa Pacific Holdings Network, Operations Center 608-314-9310 or 888-783-4316

Appendix 12 - Extracts from current MBCR/Amtrak Employee Timetable

FS-1 Passenger Train Emergency Situations

F-S1. PASSENGER TRAIN EMERGENCY SITUATIONS

The Dispatcher must be notified of any emergency related to the operation of passenger train service involving a significant threat to the safety or health of one or more persons requiring immediate action, including:

- A derailment
- A fatality at a grade crossing
- A passenger or employee fatality
- A serious illness or injury to one or more passengers or crew members requiring admission to a hospital
- An evacuation of a passenger train
- A security situation (e.g., a bomb threat)

A crew member shall quickly and accurately assess the situation and then notify the Dispatcher as soon as possible by the quickest available means. As appropriate, the crew member shall inform the passengers about the nature of the emergency and indicate what corrective countermeasures are in progress.

In the event of a security situation, after contacting the Dispatcher, the train must not proceed until receiving instructions to do so from a supervisor.

For additional instructions regarding Medical Emergencies, see Special Instruction 940-S5.

FS-2 Emergency Preparedness

F-S2. EMERGENCY PREPAREDNESS

In accordance with FRA 49 CFR Part 239, Passenger Train Emergency Preparedness, Train and Engine service employees must have an accessible flashlight. "Accessible" is defined as carrying the flashlight on your person.

F-S3 Tunnel Emergency Evacuation Procedures

F-S3. TUNNEL EMERGENCY EVACUATION PROCEDURES

The evacuation of passengers from a train should be conducted only as a last resort in extreme emergencies. In the event of an emergency situation, all employees must remain calm and respond in an efficient, concise and professional manner.

In the event of a severe fire to standing equipment, accident or emergency occurring in a tunnel that would endanger the safety of passengers, immediate steps must be taken. Before the train crew attempts to detrain passengers or emergency personnel enter the tunnel area all movements must be stopped. Information that evacuation is being progressed must be immediately communicated to the appropriate dispatchers.

In the event of fire or emergency situation on trains moving through tunnels, every effort must be made to expedite the movement of the train out of the tunnel. Train crews must promptly establish communication with the engineer to discuss cooperative action towards keeping the train moving. The train must not be stopped unless there is reason to believe that derailment or personal injury may otherwise result.

Fire on Board

In the event of a fire or smoke condition in a tunnel or on a train operating in the tunnel every attempt must be made to keep the train moving out of the tunnel.

The Train and Engine crew is responsible to promptly and accurately assess the nature of the problem. When a fire situation exists on a train, every attempt must be made to insure the safety and well being of the passengers involved. When possible, the crew should extinguish the fire with the fire extinguishers on board. If the fire cannot be extinguished, the following procedures are to be executed:

1. Train crew members must report fire or smoke conditions to the Engineer and Train Dispatcher. Any doors must be closed as quickly as possible and the ventilation system shut down to prevent drawing smoke into the coaches.
2. The Conductor must maintain order and take appropriate steps to insure passenger comfort and information. Passengers in a coach in which a fire develops must be directed to an adjacent coach away from the fire as quickly as possible.
3. The Train Dispatcher will prioritize train movement for that train immediately.

Steps For Evacuating The Train

1. Remain calm and assess the situation
2. Notify the Train Dispatcher of plans to evacuate and to hold all trains clear of the area Check status of ventilation.
3. Notify passengers of emergency and evacuation plans.
4. Provide assistance to passengers as needed.
5. Double-check the coaches to insure that everyone is out.

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F-E1 Salem Tunnel Emergency Exits

F-E1. TUNNEL/WALL EMERGENCY EXITS—SALEM TUNNEL
In case of emergency, employees or passengers must exit tunnel by the east or west portals

F-B1. Hingham Underpass – Emergency Exits, and the Refer current Amtrak Timetable

F-B1. HINGHAM UNDERPASS -- EMERGENCY EXITS
In case of emergency, employees or passengers must exit Hingham Underpass by the north or south portals.

F-B1 Tunnel/Wall Emergency Exits (Forest Hills and Back Bay)

F-B1 TUNNEL/WALL EMERGENCY EXITS
Emergency exits are in service at the following locations on the No. 2 Track side of the Main Line--New Haven to Boston, between Forest Hills and Back Bay: MP 223.87, 224.04, 224.23, 224.45, 224.61, 224.76, 224.96, 225.11, 225.30, 225.54, 225.77, 225.93, 226.04, 226.20, 226.98, 227.15 and 227.31.

Draft Emergency Response Plan ("ERP")

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Emergency Response Plan ("ERP")

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3.C MBCR Emergency Response Plan

Purpose

The purpose of this plan is to detail the crisis response strategies to be implemented in the event of major emergencies resulting from storms and other natural occurrences that may result in disruption to the Commuter Rail System.

This plan applies to the Commuter Rail operations of the Massachusetts Bay Commuter Railroad Company (MBCR), contract operator for the Massachusetts Bay Transportation Authority (MBTA).

This plan provides guidance for:

- Reporting
- Assessing what the hazards are
- Responding to an emergency situation in an expedient and effective manner

Objective

The primary objective of this plan can be summarized as follows:

- Preservation of life
- Injury reduction and control
- Expeditious restoration of the Commuter Rail service
- Asset protection
- Assist in any subsequent Incident investigation caused by a natural occurrence that may be carried out by the National Transportation Safety Board (NTSB), the Federal Railroad Administration (FRA), and any other federal or state agencies.

Overview

Response refers to the activities necessary to address the immediate and short-term effects of an incident. It will focus primarily on the actions necessary to save lives, protect property, and meet basic human needs. Life-saving and life-protecting activities take precedent over any other actions.

Planning is essential to mitigating the consequences of an accident, incident, or emergency occurrence on the Commuter Rail system. This planning includes taking steps to prevent fires and environmental releases, as well as to anticipate and address adverse weather conditions.

In addition, pre-emergency planning includes proper training of personnel, readily available personal protective and emergency medical response equipment.

This plan outlines procedures to be employed by MBCR employees whenever an emergency situation develops due to all or a portion of the railroad becoming unsafe for the normal movement of trains, such as accidents, breakdowns, and the following:

- Storm or other natural events (rain, rain runoff, snow, high winds or temperatures over 85 degrees (Heat Wave - 85 degrees continues for 3 or more days).
- Release of hazardous materials along or adjacent to the right-of-way
- Fires, both structural and field, burning along or adjacent to the right-of-way
- Malfunction of railroad equipment or structures

This procedure outlines actions that must be taken in the event of storms and other acts of nature. Actions taken will involve the following:

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- Warning employees, customers and contractors
- Communicating with personnel and community responders
- Conducting an evacuation while accounting for all persons in a facility, train, station, etc.
- Managing response activities
- Activating and operating an emergency operations center
- Shutting down operations
- Protecting vital records
- Restoring operations

Definitions, Acronyms, and Abbreviations

Amtrak: The National Railroad Passenger Corporation providing intercity rail service over right-of-way shared with Commuter Rail operations.

CETC - Centralized Electrification and Traffic Control: The MBCR traffic control operations center for MBTA Commuter Rail, south side operations, located in South Station Terminal.

CROCC - Commuter Rail Operations Control Center: The MBCR traffic control dispatching center for MBTA Commuter Rail, north side operations, located at Cobble Hill in Somerville.

Commuter Rail Service Disruption: Events, storms or other acts of nature occurring on or off the service property including and not limited to: collisions, derailments, fires, fatalities and/or injuries, or any other emergency which has the potential to impact service. All of these require coordination of multiple activities to recover the Commuter Rail service.

Department of Public Utilities (DPU): A state agency with regulatory oversight over railroads in Massachusetts.

Emergency: An event or condition that requires an immediate, active response to prevent, mitigate, and/or control threats to life and property and the Commuter Rail service.

Emergency Medical Service (EMS): Any sanctioned organization that provides medical services in emergency situations, including paramedic, emergency medical technician, nursing, and/or physician services.

Emergency Preparedness Plan: One or more documents focusing on preparedness and response in dealing with a passenger train emergency.

Emergency Responder: A member of a police or fire department or any other organization involved with public safety, responsible for providing and/or coordinating emergency services when responding to a passenger train emergency.

Federal Railroad Administration (FRA): An agency of the U.S. Department of Transportation responsible for the development and enforcement of railroad safety regulations. This agency investigates and analyzes railroad accidents and conducts safety assessments of railroads.

Massachusetts Bay Commuter Railroad (MBCR): Contractor operator for the MBTA responsible for the daily operation of the MBTA's Commuter Rail system.

Massachusetts Bay Transportation Authority (MBTA): The state authority responsible for the metropolitan Boston area rapid transit and Commuter Rail systems.

Rail Incident Commander (RIC): The ranking officer with overall responsibility of the emergency incident site representing the railroad. The RIC is responsible for front-line management of the incident to include tactical planning and execution, determining the need for and then requesting outside assistance as well as for relaying requests for internal resources.

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Incident Command Post (ICP): Established by the lead emergency response agency at or very near the accident location; the ICP serves as the primary on-scene control point of operations, during initial response actions and subsequent investigative activities.

National Response Center (NRC): The 24-hour regulatory office to be notified, by railroads, of major train emergencies.

Operations Control Center (OCC): A central location on a railroad with responsibility for directing safe movement of trains, such as CETC and CROCC. This may also refer to MBCR, MBTA, CSX, Pan Am Railways or Amtrak Operations Control Centre; OCC's as appropriate.

PanAm Railways: (Formally known as Guilford Rail) – freight rail operator sharing right-of-way with Commuter Rail operations.

Related Plans and Documents

The following plans and documents are incorporated by reference to this Emergency Response Plan:

Emergency Preparedness Plan

This document shall also be utilized in the event that the service disruption is caused by a train accident or emergency incident. The Emergency Preparedness Plan explains the necessary emergency notifications and responses.

MBCR Heat Wave Action Plan

This plan outlines the Transportation, Customer Service, Mechanical and Engineering Department joint responsibilities to coordinate resources in order to maintain HVAC on passenger vehicles when temperatures are predicted to exceed 85 or more degrees for more than 3 days. The plan also outlines the need for additional track inspections as well as the additional resources that need to be made available in order to handle any infrastructure heat related issues.

MBCR Train Dispatcher's Manual; Section, "Emergency Operating Procedures"

This manual is the basis for employee actions at the operations control center with regard to emergency response to a rail accident/incident. It defines and prioritizes the steps to be taken in immediate response, to include: assessment, notifications, announcements/communication with passengers, and, if necessary, train evacuation.

MBCR Engineering Department Railroad Operations Snow Plan

This plan outlines the departmental responsibilities with regard to planning for, and managing the removal of snow and ice on MBTA Commuter Rail right-of-ways, station platforms, layovers and certain parking lots and facilities.

MBCR Commuter Rail Contingency Plan

This plan outlines MBCR's management responsibilities in the event of a service interruption due to job actions.

MBCR Emergency Response – Spill Plan

An outline of the necessary environmental incident response required in the event of a diesel fuel spill, leaks of engine fluids, release of propane from a storage tank, or any release of materials such as oils or gasoline into the environment.

MBCR Oil Spill Prevention, Control and Countermeasures Plan (CRMF, Widett Circle)

To minimize the potential for oil discharge into or upon navigable waters or that may affect other natural resources.

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MBCR Environmental Policies and Procedures Manual

Detailed procedures to be used in conjunction with applicable federal, state, and local regulations to promote environmentally responsible and safe management of shipping and receiving and storing of hazardous materials and wastes at MBCR.

MBCR Crisis Communication Plan

Crisis communication plan includes managing the message, timing, and the channels involved in crisis information dissemination via various means public media in coronation with the MBTA press office.

Personnel Roles, Lines of Authority and Communication

Emergency situations require practiced, appropriate actions to ensure employee and public safety and to recover from the incident in as timely a manner as possible.

Railroad Incident Commander (RIC)

The RIC has overall responsibility of the incident site. The RIC is most often a ranking transportation officer since the incident will likely involve disruption of scheduled passenger service. Safety, Environmental, Mechanical, Engineering, and all other railroad and external agency personnel will coordinate all response and recovery efforts through the RIC.

As noted in the MBTA/MBCR Emergency Preparedness Plan, the MBCR Operations Control Center will initiate the MBCR internal emergency notification procedures (contained in the Train Dispatcher's Manual). In the event of a Service Disruption, the RIC will be designated to manage the on-site response and ensure that appropriate notification procedures are followed. The RIC function will be filled by the Assistant Chief Train Dispatcher or a high-positioned company officer until such time as he is relived by a high-positioned company officer on scene. The RIC will be responsible for:

- Coordination of alternative transportation
- Oversight and cleanup of the event
- Management of the Commuter Rail service restoration
- On site liaison with emergency responders and public safety officials

Incident Command System (ICS)

The ICS provides for coordinated response and a clear chain of command and safe operations, with the rail incident commander (RIC) responsible for front-line management of the incident, tactical planning and execution and for determining whether outside assistance is needed as well as for relaying requests for internal resources or outside assistance through the Emergency Operations Center (EOC). The RIC must have the capability and authority to:

- Assume command
- Assess the situation
- Implement the emergency management plan
- Determine response strategies
- Activate resources
- Order an evacuation
- Oversee all incident response activities
- Work within the National Incident Management System (NIMS) (unified command), and coordinate with other Emergency Responder Incident Commander's in a coordinated effort to protect life and coordinate system recovery
- Declare that the incident is "over

The RIC will have the aforementioned authority in case of a major emergency or storm involving the Commuter Rail system.

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Engineering Department

The employee working the radio room trouble desk at the time of the emergency occurrence is responsible for providing adequate engineering services and support in all emergency response needs including:

- Materials
- Manpower
- Equipment
- Notification

A designated engineering department "Duty" officer will be responsible for implementation of the appropriate tactical action plan to be used in response to the incident. This officer is responsible for documenting the information needed and developing a plan of action designed to support the specific emergency situation that might threaten the physical plant, equipment, operation, employees, and/or passengers of the system. During the event the officer must liaise with keep the MBCR OCC up to date so up to date communication is given to the RIC in the field.

Radio Room Contact Number- 617-222-3628

Customer Service Department

The Customer Service Department coordinates with all departments and helps implement the customer-focused service response, taking responsibility for the care and satisfaction of passengers. Customer recovery will include:

- Coordinating bus service or alternative transportation for customers
- Communicating information to all customers
- Arranging for the distribution of notices and flyers during/before Commuter Rail disruption

Mechanical Department

This department is responsible for determining if it is safe to operate equipment during or following an incident where damage was incurred or when there is potential for harm if operations continue in adverse conditions. Emergency notification is initiated by the Operations Control Center (OCC) to the Manager of Equipment Maintenance, his assistant, or the appropriate facility manager (Commuter Rail Maintenance Facility – CRMF or Widett Circle and Readville).

Media Relations

MBCR has acquired the services of an external communications consultant who is responsible for managing the distribution of external information and act as spokesman during a crisis event. This allows MBCR to communicate effectively with the media, and to facilitate the rapid de-escalation of the crisis through timely and effective communication methods.

In an emergency, the media are a vital link to the public. The communications consultant or another MBCR spokesperson will set up a media briefing area in a safe secure location.

The communications consultant will receive direction from the General Manager's office and ensure that all information to be distributed is complete, accurate and approved for public release. The communications consultant is responsible for:

- Giving all media access to information
- Conducting press briefings, interviews and availabilities
- Observing and meeting media deadlines
- Keeping records of information released
- Providing press releases when possible

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Communicating with the Public

When site emergencies expand beyond the facility, the community will want to know the nature of the incident, whether the public's safety or health is in danger, and what is being done to resolve the problem as well as what was done to prevent the situation from happening.

The communications consultant must determine the audiences that may be affected by an emergency and identify their information needs. These may include:

- The public – system users and neighboring community(s)
- The media
- Contractors and suppliers
- Emergency response organizations
- Public officials

Communications/Media Liaison

In an emergency, it is crucial to control communications and the communications systems needed to support them. Communications are required between:

- Emergency responders
- Responders and the Rail Incident Commander (RIC)
- The RIC and the Operations Control Center (OCC)
- The RIC and employees
- The EOC and outside response organizations
- The EOC and neighboring businesses
- The EOC and employees' families
- The EOC and customers
- The EOC and media

Reporting

The Assistant Chief Train Dispatcher at CETC and CROCC have an emergency notification list for each railroad containing the names, titles, and contact information of staff, in the order for notification. Other related communication requirements, including emergency response agencies, the MBTA OCC, MBTA Transit Police and regulatory agencies, and appropriate city and town notifications.

The Operations Control Center (CETEC/CROCC) is responsible for contacting the **National Response Center (NRC)**: The 24-hour regulatory office for the notification by railroads of major train emergencies can be reached by calling: **1-800-424-8802**

Report major emergencies to the following:

- MBCR North Side Dispatcher - Commuter Rail Operations Control Center (CROCC): **(617) 222-6114/6115**
- MBCR South Side Dispatcher - Centralized Electrification and Traffic Control (CETEC): **(617) 222-8101/8102**
- MBCR Engineering Radio Room **: (617) 222-3628**

Local Emergency Response:

- Boston Police, Fire, and EMS - 911
- MBTA Transit Police - (617) 222-1212

Foreign Railroad Contact Numbers

MBCR OCC, when applicable, will report major emergencies to the following:

- AMTRAK – Operation Control Centre: (800) 243-1255
- Pan Am Railways – Operation Control Centre: (800) 955-9208

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› CSX – Operation Control Centre: (518) -767-6900

Emergency Response - Pre Planning

Weather Tracking

The Chief Engineer's office is responsible for ensuring that the weather is tracked and communicated to CETC and the CROCC, as well as all departments. The Chief Engineer also coordinates with the Mechanical, Customer Services and Transportation Departments to ensure that suitable action plans are taken to protect customers and the infrastructure of the Commuter Rail system.

The following professional weather services are used to track for flood watches and warnings, hurricane watches and warnings; tornado watches and warnings, and severe winter storms:

› National Oceanic and Atmospheric Administration (NOAA website "Warnings and Advisories")

› Doppler Radar

› Local weather channels for "Warnings and Advisories"

Below are guidelines for preparing for Storms and Other Natural Occurrences that may occur which must be considered in pre-planning;

1. Floods and Flash Floods

Floods are the most common and widespread of all natural disasters. Most communities in the United States can experience some degree of flooding after spring rains, heavy thunderstorms or winter snow thaws.

Most floods develop slowly over a period of days. Flash floods, however, are like walls of water that develop in a matter of minutes. Flash floods can be caused by intense storms or dam failure.

The following are considerations when preparing for *floods:*

› Determine, with the assistance of the local emergency management office whether your facility is located in a flood plain. Learn the history of flooding in your area. Learn the elevation of your facility in relation to streams, rivers and dams

› Inspect areas in the facility subject to flooding. Identify records and equipment that can be moved to a higher location. Make plans to move records and equipment in case of a flood

› Identify employee and equipment resources that will need to be available

2. Hurricanes

Hurricanes are severe tropical storms with sustained winds of 74 miles per hour or greater. Hurricane winds can reach 160 miles per hour and extend inland for hundreds of miles.

Hurricanes bring torrential rains and a storm surge of ocean water that crashes into land as the storm approaches. Hurricanes also spawn tornadoes.

Hurricane advisories are issued by the National Weather Service as soon as a hurricane appears to be a threat. The hurricane season lasts from June through November.

The following are considerations when preparing for hurricanes:

› Establish facility shutdown procedures. Establish warning and evacuation procedures. Make plans for assisting employees who may need transportation

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- Make plans for communicating with employees' families before and after a hurricane
- Hurricane Watch -- A hurricane is possible within 24 to 36 hours. Stay tuned for additional advisories. Tune to local radio and television stations for additional information. An evacuation may be necessary
- Hurricane Warning -- A hurricane will hit land within 24 hours. Take precautions at once. If advised, evacuate immediately
- Survey your facility. Make plans to protect outside equipment and structures
- Make plans to protect windows
- Identify Critical Operations and provide a backup power source
- Consider the need for backup systems:
  - Portable pumps to remove flood water
  - Alternate power sources such as generators or gasoline-powered pumps
  - Battery-powered emergency lighting
- Prepare to move records, computers and other items within your facility or to another location.

3. Tornadoes

Tornadoes are violent local storms that extend to the ground with whirling winds that can reach 300 mph.

Spawned from powerful thunderstorms, tornadoes can uproot trees and buildings and turn harmless objects into deadly missiles in a matter of seconds. Damage paths can be in excess of one mile wide and 50 miles long.

Tornadoes can occur in any state but occur more frequently in the Midwest, Southeast and Southwest. They occur with little or no warning.

Pre-planning Considerations

The following are considerations when preparing for *tornadoes:*

- Determine with the assistance of your local emergency management office about the community's tornado warning system
- Tornado Watch -- Tornadoes are likely. Be ready to take shelter. Stay tuned to radio and television stations for additional information
- Tornado Warning -- A tornado has been sighted in the area or is indicated by radar. Take shelter immediately
- Establish procedures to inform personnel when tornado warnings are posted. Consider the need for spotters to be responsible for looking out for approaching storms
- Work with a structural engineer or architect to designate shelter areas in your facility. Ask your local emergency management office or National Weather Service office for guidance
- Identify Critical Operations and provide a backup power source
- Consider the amount of space you will need. Adults require about six square feet of space
- The best protection in a tornado is usually an underground area. If an underground area is not available, consider:
  - Small interior rooms on the lowest floor and without windows

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- Hallways on the lowest floor away from doors and windows
- Rooms constructed with reinforced concrete, brick or block with no windows and a heavy concrete floor or roof system overhead
- Protected areas away from doors and windows

› Make plans for evacuating personnel away from lightweight modular offices or mobile home-size buildings. These structures offer no protection from tornadoes.

› Once in the shelter, personnel should protect their heads with their arms and crouch down.

4. Severe Winter Storms

Severe winter storms bring heavy snow, ice, strong winds and freezing rain. Winter storms can prevent employees and customers from reaching the facility, leading to a temporary shutdown until roads are cleared. Heavy snow and ice can also cause structural damage and power outages.

Pre-planning Considerations

The following are considerations when preparing for winter storms:

› Winter Storm Watch -- Severe winter weather is possible

› Winter Storm Warning -- Severe winter weather is expected

› Blizzard Warning -- Severe winter weather with sustained winds of at least 35 mph is expected

› Traveler's Advisory -- Severe winter conditions may make driving difficult or dangerous

› Establish procedures for facility shutdown and early release of employees

› Store food, water, blankets, battery-powered radios with extra batteries and other emergency supplies for employees who become stranded at the facility

› Identify Critical Operations and provide a backup power source

› Arrange for snow and ice removal from parking lots, public and employee walkways, loading docks, etc.

5. Earthquakes

Earthquakes occur most frequently west of the Rocky Mountains, although historically the most violent earthquakes have occurred in the central United States. Earthquakes occur suddenly and without warning.

Earthquakes can seriously damage buildings and their contents, disrupt gas, electric and telephone services, and trigger landslides, avalanches, flash floods, fires and huge ocean waves called tsunamis. Aftershocks can occur for weeks following an earthquake. In many buildings, the greatest danger to people in an earthquake is when equipment and non-structural elements such as ceilings, partitions, windows and lighting fixtures shake loose.

Pre-planning Considerations

The following are considerations when preparing for **earthquakes**:

› Assess your facility's vulnerability to earthquakes. Ask local government agencies for seismic information for your area.

› Consider strengthening measure such as:

- Adding steel bracing to frames
- Adding sheer walls to frames

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- Strengthening columns and building foundations
- Replacing un-reinforced brick filler walls

› Follow safety codes when constructing a facility or making major renovations.

› Inspect non-structural systems such as air conditioning, communications and pollution control systems. Assess the potential for damage. Prioritize measures to prevent damages.

Inspect your facility for any item that could fall, spill, break or move during an earthquake. Take the following steps to reduce these hazards.

› Move large and heavy objects to lower shelves or the floor. Hang heavy items away from where people work.

› Secure shelves, filing cabinets, tall furniture, desktop equipment, computers, printers, copiers and light fixtures.

› Secure fixed equipment and heavy machinery to the floor. Larger equipment can be placed on casters and attached to the wall.

› Keep copies of design drawings of the facility to be used in assessing the facility's safety after an earthquake.

› Review processes for handling and storing hazardous materials. Have incompatible chemicals stored separately.

› Establish procedures to determine whether an evacuation is necessary after an earthquake.

› Identify Critical Operations and provide a backup power source

› Designate areas in the facility away from exterior walls and windows where occupants should gather after an earthquake if an evacuation is not necessary.

› In an earthquake, if indoors, stay there. Take cover under a sturdy piece of furniture or counter, or brace yourself against an inside wall. Protect your head and neck.

› If outdoors, move into the open, away from buildings, streetlights and utility wires.

› After an earthquake, stay away from windows, skylights and items that could fall. Do not use the elevators.

› Use stairways to leave the building if it is determined that a building evacuation is necessary.

Response & Recovery

PREPLAN – Acquiring Equipment and Resources

Emergency Response Equipment - Appropriate equipment that may be useful in emergency response is maintained in readily accessible areas throughout the Commuter Rail system. Listed below are the various types of emergency response equipment and locations where stored. Refer to Appendix A Emergency Response Equipment.

Snow Removal Equipment: Refer to the MBTA Snow Removal Plan for the description and location of snow removal equipment located in the Chief Engineers office at Cobble Hill.

Oil Spill

Readily available spill clean-up/containment materials should include:

› Complete spill kit

› Absorbent pads, pillows, and booms

› Disposal bags

› Lite-dri absorbent material

› Catch basin covers

› Spill block dikes

› Shovel

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The above **oil spill response equipment** is maintained at the following locations:

Widett Circle Service & Inspection facility:

- Stores department
- Diesel pump house
- South side of the S&I building

Commuter Rail Maintenance Facility (CRMF):

- Wastewater treatment plant
- Fire pump room
- Near loading dock
- Truck repair bay
- Locomotive repair bay
- Coach repair bay
- Service and inspection repair bay

Preplan - Stockpiling Supplies

Engineering Department:

Emergency material stockpiles exist at the following locations:

North Side

Ballast – Yard at Everett Junction (1000 tons)

Rip-Rap (4"-6")/Granite Block – Western Route Main Line (WRML) at CPF-LJ (100 tons) and Foley Street (50 tons), Eastern Route Main Line (ERML) near east end of Saugus draw (granite blocks), T, Pad –Under Hi-line Bridge (50 tons)

Track Panels – Fitchburg Main Line (FML) Ayer (10), New Hampshire Main Line (NHML)

South Side

Ballast – Readville 5 Yard (400 tons)

Track Panels – Readville 2 Yard (10)

Rip-Rap/Granite Block – Readville 5 Yard,

Identified High Risk Areas & Logistics

The following fixed facilities are identified as at a high risk for damage from a storm event and represent structures with special challenges for the restoration of service if they are damaged;

Moveable Bridges Locations:

- Draw 1 – Boston Terminal MP 0.28
- Saugus Draw – ERML MP 9.55
- Beverly Draw – ERML MP 17.66
- Manchester Draw – GB MP 25.06
- Gloucester Draw – GB MP 31.00

Facilities:

- Commuter Rail Maintenance Facility (CRMF)
- Readville Maintenance Facility
- Widett Circle (S&I)
- West Cambridge work equipment

Operations Control Center (OCC):

- North Side - Commuter Rail Operations Control Center (CROCC)
- South Side - Centralized Electrification and Traffic Control (CETC)

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LOGISTICS – to be Considered during an Emergency

- Providing utility maps to emergency responders
- Providing material safety data sheets to employees
- Moving backup equipment into position
- Moving equipment to a safe location
- Covering or securing equipment
- Arranging for medical support, food and transportation
- Arranging for shelter facilities
- Providing for backup power
- Providing for backup communications
- Containing material spills
- Closing or barricading doors and windows
- Shutting down equipment
- Equipment and Structure Malfunctions

In the event of a flood, hurricane, tornado, or severe winter storms the Engineering Department has access to the following documents which are located at Cobble Hill, Somerville, in the diagram and planning room;

The following drawings are available from the Chief Engineer's office upon request:

- Utility shutoffs
- Water hydrants
- Water main valves
- Water lines
- Gas main valves
- Gas lines
- Electrical cutoffs
- Electrical substations
- Storm drains
- Sewer lines
- Location of each building (include name of building, street name and number)
- Floor plans
- Alarm and enunciators
- Fire extinguishers
- Fire suppression systems
- Exits
- Stairways
- Designated escape routes
- Restricted areas
- Hazardous materials (including cleaning supplies and chemicals)
- High-value items

Training

All MBCR and contractor employees in the Commuter Rail service receive appropriate training in emergency recognition, prevention, and notification. They are provided with, and instructed in the use of, personal protective equipment that is required to be worn and used for a particular function. Periodic safety meetings will reinforce training.

Employee Training

Emergency Preparedness training for employees addresses:

- Individual roles and responsibilities
- Information about threats, hazards and protective actions
- Notification, warning and communications procedures
- Emergency response procedures
- Evacuation, shelter and accountability procedures
- Location and use of common emergency equipment
- Emergency shutdown procedure

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MBCR Operations Control Center Personnel: All personnel have been provided initial training on the requirements of this Plan to ensure that they execute the proper response to an emergency notification. MBCR Operations Center staff must be familiar with the necessary course of action that each type of emergency situation dictates.

Training Frequency - Initial training for new MBCR Operations Control Center staff shall be provided within 90 days of their initial date of service. Periodic training for MBCR staff will be provided, at a minimum, on a two-year basis. However, when situations warrant (i.e.: new procedures, modifications to existing procedures, changes or improvements to this plan, etc.), more frequent training will be provided.

Emergency Simulations

The process of testing an organization's ability to respond to a crisis in a coordinated, timely, effective manner will be accomplished by simulating the occurrence of a specific crisis. MBCR will work with MBTA to plan, execute, and critique emergency simulation drills on an annual basis. (Refer to the MBCR Joint Passenger Train Emergency Preparedness Plan for the MBTA Commuter Rail Service that pertains to 49 CFR Part 238 & 239).

Liaison with Emergency Responders

Training Materials: Wherever possible and practical, MBCR shall make its emergency preparedness and response training materials available to all on-line emergency responders in every service operating area. Training materials may include, but are not limited to, video instruction, written emergency response scenarios, written examinations and evaluation books, and other relevant materials. Training methods will include:

- Focus on the methods of emergency access to passenger cars and the typical location of railroad facilities and equipment. Methods of communications between railroad officials and emergency response crews shall also be covered.
- Direct instruction, preferably, to the on-line response agency or organization. Otherwise, the training materials will be provided to the responsible official(s) within the appropriate emergency response organizations (e.g., State training institutes, firefighter organizations, police academies, etc.).
- Periodic outreach of response agencies and possible site visits will be conducted by MBCR officials to determine the adequacy of the training effort. Additional training assistance and materials shall be provided, as required.

Distribution of Emergency Plan: In addition to training requirements, MBCR shall also ensure that an appropriate number of copies of this Plan (or applicable portions thereof) are adequately distributed to all emergency response organizations that may be required to participate in an emergency situation or simulation.

Department Response and Contingency Plans

Engineering Department

Hurricane/Major Storm (Rain/Snow) (50yr/100yr)

When a hurricane or major storm watch is issued the Chief Engineer will ensure that all of the appropriate emergency response equipment is tested and inspected prior to deployment. Side-dump cars and ballast cars should be loaded with granite blocks, rip rap and ballast and staged at our

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ballast-loading track on the Saugus branch in Everett. A staffing plan to protect the service property will be developed with emphasis on the critical assets list.

When a Hurricane or Major Storm Warning is issued the Chief Engineer will deploy Engineering Forces according to the predicted track of the storm. While each response will be unique to the storm event a fundamental breakdown of each Engineering disciplines tasks is as follows:

- **Track** – Ensure that all available side dump cars and ballast cars are properly loaded and the work train is manned with employees qualified on the operation of the side dump cars. Maintain contact with the Engineering "Duty" officer and the Assistant Chief Train Dispatcher for deployment instructions. Mobilize the appropriate I&R crews in fully fueled vehicles outfitted with basic ROW clearing tools, (chain saws, lining bars, etc.) Deploy heavy equipment, (front-end loaders, Pettibone cranes, rotary dump trucks) sufficiently close to the storm site to provide rapid response to any major line blockage.
- **C&S** – Deploy maintainers/signalmen to mission critical interlockings in fully fueled trucks equipped with emergency generators to operate the interlockings in the event of commercial power failure. Provide for a roving emergency line repair crew.
- **B&B** – Deploy pumps and crews at the designated high-water pumping locations. Provide an appropriate number of crews with fully fueled trucks equipped with portable pumps to respond to site specific ROW or Facility flooding problems. Provide qualified employees to handle bridge and/or culvert inspections/evaluations.
- **Electricians** – Provide protect service at UPS locations to assure functionality of these mission-critical components. Provide sufficient protect crews at the major mechanical facilities (CRMF, Widett Circle) and two mobile response teams (two men with a vehicle), one North Side and one South Side as the storm track dictates.

Catastrophic Infrastructure Failure

Thorough inspection protocols provide assurance that the primary failure modes will be through either a major storm or other natural occurrence as described above or through the structure being struck by a boat, a motor vehicle or a train. The railroad would become aware of these accidents and any subsequent failure either through public safety officials' (police, fire, Coast Guard) calls to the Radio Room, Trouble Desk or to the Assistant Chief Train Dispatcher.

Mechanical Department - When a hurricane or major storm watch is issued the Chief Mechanical officer will ensure that an initial assessment is carried out, and will implement the following procedures:

- Carry out a conference call with Mechanical Managers to discuss the event and pre-plan
- Liaise with the Engineering facilities department regarding securing facility and infrastructure
- Assign a Mechanical Manager at both North and South locations to coordinate the emergency response and liaise with the Chief Mechanical Officer
- Communications devices and contact telephone numbers along with the appropriate equipment will be distributed to all managers, supervisors and electricians
- Chief Mechanical Officer will participate in regular conference calls with Department Heads and General Manager before and during events
- If necessary, contact available personnel to work off-shifts and weekends at CRMF and Readville to increase shop production in order to correct any defects so as to ensure system recovery
- Coordinate with the Stores Department to ensure a sufficient quantity of high usage material is readily available throughout the event period

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- In extreme conditions all equipment will be secured and left running through the night and appropriate personnel and parties will be informed
- Provide Daily Reports to the MBTA on the status of all Mechanical defects

Transportation Department - An assessment of the event is required to establish a response plan to fit the specific situation. It is especially important that this be done promptly for unforeseen events, e.g., a building collapse across the tracks. Below is guidance in the form of checklists to help develop an emergency response plan.

Initial Situation Assessment

- What kind of situation exists?
- Is initial report accurate or from a reliable, verifiable source?
- Has the appropriate train dispatcher been notified?
- Note name and phone number of person making initial notification

Train Movements

- Determine location of all trains in the vicinity
- Take immediate action (with appropriate dispatcher's concurrence) to halt en-route trains from proceeding further than an accessible MBCR station (if an obstruction further along the line will keep them from reaching the next station)
- Begin the appropriate notifications (MBCR, MBTA, FRA, CSX, Amtrak, Pan Am, etc.)

Passengers

- How many passengers are affected?
- On trains
- Waiting at stations
- Using wheelchairs or in need of special assistance
- Have they been informed of the delay; if not, how quickly and how frequently can communication be established with them to avoid any unsafe, unsatisfactory situations?

Rail Equipment

- Is (are) there a train set(s) available on either side of main track blockage?
- Is there spare rail equipment at the maintenance facility? Outlying point?
- If yes, is it inspected, fueled and is there a crew available to operate it?
- Is there a "window" for the MBCR or other appropriate train dispatcher to move the extra train set(s)?

Bus Service and Alternative Transportation

- Are there accessible, safe locations to transfer passengers to?
- Are buses a viable solution – can bus transfer stations be used that are away from area affected by disruption?
- Are buses available?
- Can the Train Dispatcher move trains to and from proposed transfer stations and move trains as needed?
- How many buses are needed?
- Between which stations will buses operate?
- MBCR Customer Service personnel to be sent to each bus/train transfer station or location to help with customer recovery

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Alerting, Assessment and Response Procedures

For an unforeseen event where it is apparent that there will be a delay in excess of **15 MINUTES** to a scheduled commuter train, a manager/supervisor, or employee at the scene until supervisor arrives, will be designated as the Rail Incident Commander. The situation must be assessed to determine whether there is the possibility the delay may become even longer and to consider the option of an alternate means of transportation to provide interim service. If it is known the delay will be substantial, the Transportation Department is to initiate alternative means of transportation ***at once.*** The types of alternative service to be utilized include:

- Modified train shuttle service using equipment in short turnaround service on the portions of the rail line that are not affected
- Substitute bus service around affected areas (bus-bridge), or connecting to shuttle trains
- Taxi or van service where necessary to fill service needs not met by the first two alternatives

The Rail Incident Commander must make the initial determination of the need for such alternative transportation as quickly as possible and contact the appropriate train dispatcher to initiate these arrangements as soon as it appears they will or may be needed. (It is better to call for and not use alternate transportation than to "wait a half hour to be sure". There is an expense connected with such an action, but the serious delays to passengers from NOT acting outweigh that expense).

In situations where bus response time is over **30 MINUTES** and a following train is proceeding on schedule, the most expeditious means of moving the passengers may be the following train, in which case no alternative transportation need be called. Before this course of action is selected, it must be definitely known that the following train will be able to move immediately through the affected area.

Notifications and Communications

Good emergency management is necessary to communicate effectively with emergency responders, the media, employees, contractors, customers, and other stakeholders. The emergency communications function should facilitate the rapid de-escalation of the situation through timely and effective communications methods. It is MBCR's foremost obligation to keep customers informed of the reason and expected duration of any delay to a commuter train.

When a commuter train is delayed, the following means are available to notify passengers:

- Public Address (PA) system announcements, or face-to-face announcements by train crewmembers, must be made within **5 MINUTES** of train stopping; information must be repeated every 5 minutes thereafter.
- Announcements at stations made by MBCR personnel.
- Announcements made by station and/or supervisory personnel on the scene to direct passengers to or from buses/taxis when alternate transportation is used.
- Messages generated at the operations control center and displayed on the LED sign boards located at all Commuter Rail stations.

When announcements are made on trains, it must be remembered that passengers boarding at stations after the on-train announcement was made may not be aware of the reason and extent of the delay. In these circumstances, additional en-route announcements should be made on the train.

When a train is over **10** minutes late, the MBTA Operations Control Center (OCC) must be notified immediately and kept apprised of the situation. This notification must be followed by notification to appropriate MBTA Railroad operations managers in the form an electronic page message from the MBCR OCC.

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Implementing the Plan

When an action plan for the response has been established and the decision made to initiate the plan, the following actions should be taken by the MBCR Incident Commander or his designee to implement the plan:

- Inform appropriate Train Dispatcher, MBCR General Manager or Duty Officer and all involved MBCR personnel the details of the plan
- Notify MBTA bus, transit, and/or taxi cab companies of the following:
  - The number of vehicles required
  - Verify they can respond (adequately)
  - Advise them where to report and to whom
  - Where they will be used
  - The anticipated length of time they will be required
- **MBTA Para-Transit Dispatch** should be notified immediately if it appears any mobility-impaired passengers are affected. Train crews and Managers should immediately advise MBCR supervisors when such passengers are present on the train(s) or at the stations involved.
- After MBTA bus, transit and/or taxi companies have confirmed their responses, notify appropriate field supervisors so that they can be certain passengers and crews are kept informed and ready when buses/taxis arrive.
- When alternate transportation equipment (train, bus, vans or taxis) arrives or departs key points, the on-scene personnel should advise the MBCR Rail Incident Commander responsible for coordinating the action plan.
- When more than one bus, van, or a group of taxi cabs are being used to shuttle around a main track blockage, it is essential that on-scene personnel determine that all vehicles have arrived and all passengers have been transferred before releasing the waiting train.
- **REMEMBER TO KEEP PASSENGERS INFORMED!** Passengers will be much more cooperative and agreeable if they are told as honestly as possible what the situation is and what is being done to get them to their travel destination.
- The Rail Incident Commander should keep records of the arrival and release times of each vehicle used in alternative service for later verification of billed charges.
- When taxicabs are used, they should be dispatched to a station and must not be authorized or used to transport passengers to any other point without the specific authorization the MBCR Railroad Incident Commander or his/her designee.
- Taxicabs should only be used as a last resort, when MBTA buses or vans are not available or where the number of passengers is so small that a bus is not required.

Transportation Employee Responsibilities

Engineers

- Contact the OCC and request emergency services if necessary
- Monitor radio and relay pertinent information (type of emergency, location and extent) when necessary

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Conductors

- Ascertain the nature of the emergency or delay, location, number of people affected and likely duration of impact on passengers
- Exchange information with the Train Dispatcher either directly or via the Engineer
- Determine and implement safety related actions to be taken
- Relay information to passengers, providing updates every **5** minutes
- Inform OCC of current situation, planned actions and number of passengers on board
- Inform OCC of any new information
- Assign employees to walk through the train reassuring passengers (identify other railroad personnel on-board the train)
- Identify passengers with special needs and those qualified to assist (doctors, nurses, and competent Rail Staff)

Assistant Chief Train Dispatcher (CROCC, CETC)

- Function as Railroad Incident Commander until relieved by on-site railroad officer
- Notify local emergency responders
- Notify MBTA Transit Police
- Start notification process to MBTA and MBCR officials
- Notify Federal agencies as necessary

Returning to Normal Scheduled Train Service

When the appropriate responsible personnel (MBCR, MBTA, Command Center Emergency Responder) determine that the incident is expected to be cleared shortly and train service restored, careful coordination between supervisors overseeing alternate transportation and train crews must occur so an orderly transition back to normal rail service is made. The MBCR RIC is responsible for making the final decision to return to normal service and for releasing all alternate service providers.

Care must be taken by MBCR's field Managers, supervisors and customer services staff to ensure all passengers make their connections.

Post–Incident Review/Critique

DEBRIEFING AND CRITIQUE

General Requirements: To ensure maximum effectiveness of this Emergency Response Plan, MBCR will conduct debriefing sessions if recovery of service will be over 6 hours and also following each emergency response.

During the debriefing session, all participants shall be encouraged to offer their critique of the emergency event (actual or simulated). Critiques shall be directed at the effectiveness of the established provisions of this plan and shall specifically attempt to identify areas for improvement. Written records will be maintained of all comments (positive and negative) with regard to the emergency using the Post Incident Debriefing & Critique Form **(Appendix B)**

MBCR will ensure that debriefing and critique sessions are held **no later than 15 days** from the date of the emergency event (whether actual or simulated).

Purpose of Debriefing and Critique: It is MBCR's primary goal to provide the highest practical level of passenger safety and comfort, and service to our customers especially during and following an emergency event. To ensure that debriefing and critique sessions evaluate critical areas and result in the identification of opportunities for process improvement, the following elements will be examined:

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- ***Communications:*** Essential to the overall emergency response effort is effective communication between all Departments, between crewmembers and passengers, between crewmembers and OCC and MBCR Operations Center staff and responding organizations. Therefore, the entire process (i.e., communication procedures and equipment) shall be critiqued and areas for improvement identified.
- ***Timing:*** In order to achieve an adequate level of emergency response, the amount of time between the emergency occurrence (or simulation) and initial notification is critical. All efforts will therefore be taken to identify reasons for any delays in the notification process with the understanding that every situation (actual or simulated) will present different conditions and different circumstances.
- ***Operations Control Center (CETC & CROCC) Actions:*** In addition to determining if the overall communication effort itself is adequate, the notification process will also be examined. The railroad officials and response agencies notified and the adequacy of the Notification List must be evaluated to determine if any areas for improvement are possible.
- ***Responsiveness:*** The success of any emergency response situation or simulation can be best measured by the responsiveness of the agencies and staff supporting the emergency (e.g., responders, railroad officials, etc.). Quick and effective response is the cornerstone of this Plan and a true measure of the level of preparedness of each responsible agency and/or organization.
- ***Effective Passenger Egress:*** While every emergency situation or simulation may not require passenger evacuation, those that do must be evaluated. Passenger egress through emergency exits must be accomplished efficiently while ensuring maximum safety and minimum risk.

Records: All copies of records of debriefing and critique sessions will be maintained by the Safety and Training Department in accordance with the following protocols:

- Records must be maintained for a minimum period of two calendar years following the end of the calendar year to which they relate. However, when deemed necessary (e.g., due to the nature of the information contained in the records, the value of the lessons learned, use of information in training materials, etc.), longer retention periods may be prescribed.
- In addition to the actual results of the debriefing session, the records will be catalogued by the date and location of the passenger train emergency situation or simulation, the date of the debriefing session, and the names of all those who participated in the debriefing session.
- MBCR may make all records of debriefing and critique sessions available to interested parties, as appropriate. Access shall be provided during normal business hours of operation.

Communications - This is essential to the overall Emergency Response effort. Therefore, the entire process shall be critiqued and areas for improvement identified.

Timing
In order to affect an adequate level of emergency response, the amount of time between the emergency occurrence and initial notification is critical. All efforts will therefore be taken to identify reasons for any delays in the notification process.

Responsiveness
The success of any emergency response situation can be best measured by the responsiveness of the agencies and personnel supporting the emergency. Quick and effective response is necessary. The Post-Incident Review/Critique will involve the following:

- Re-assess the plan: Is the plan effective? Obtain on-site personnel feedback
- Personnel: Were relief crews necessary and/or available

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- Was Personal Protective Equipment (PPE) available and adequate
- Were vehicles available and adequate
- Was machinery/equipment available and adequate
- Did contractors/clean-up crew respond promptly and effectively
- Were supplies: radios, phones, flashlights, etc. available and sufficient
- Were communications/notifications clear and completed as required
- Was Media spokesperson identified and effective

Appendix A

Emergency Response Equipment Available

Description	Department / Rail Company
Sedan	Engineering
3/4 t pickup w/ comp	Engineering
4 yd. Dump w/ comp	Engineering
4 yd. Dump w/ comp	Engineering
4 yd. Dump	Engineering
Camel truck	Engineering
4 yd. Insulated dump	Engineering
Tractor w/lowboy	Engineering
8 yd. Dump w/ comp	Engineering
8 yd. Dump	Engineering
25 yd. tractor-trailer	Engineering
Flatbed w/lift gate	Engineering
Cat D-8 dozer	Engineering
Motor grader	Engineering
Motor grader	Engineering
Power sweeper	Engineering
Power sweeper	Engineering
Power sweeper	Engineering
4 yd. Self-loading dump	Engineering
4 yd. self-loading dump	Engineering
Backhoe	Engineering
Backhoe	Engineering
Rubber-tired dragline	Engineering
Truck crane, 1/2 yd.	Engineering
1/2 t pickup	Engineering
1/2 t pickup	Engineering
1/2 t pickup	Engineering
1/2 t pickup	Engineering
Packer truck	Engineering
Packer truck	Engineering
Packer truck	Engineering
Packer truck	Engineering
3000 gal. tank truck	Engineering
G-660 Gradall	Engineering
8 yd. dump	Engineering
8 yd. dump	Engineering

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x2 Large wrecking Floodlights	Engineering
x4 Portable Floodlights	Engineering
x14 Chain Saws	Engineering
x12 portable Generators	Engineering
x1 Large office Block Generator	Engineering
X4 One Hundred (100) Ton lifting capacity, Air operated Jacks	Contact Amtrak
x4 Fifty (50) Ton lifting capacity, Air operated Jacks	Mechanical
Metal Cutting Saws	Mechanical/Engineering
x1 Grove Crane lifting capacity Seventeen and half (171/2) Ton	Mechanical
x1 Crane lifting capacity, One Hundred and Thirty (130) Ton	Contact Pan Am Railways
Oxy/Acetylene Welding and Cutting equipment	Mechanical/Engineering
Other Common Equipment available below; ➢ Fire extinguishers ➢ Two-way radios ➢ First aid kits ➢ Ladders ➢ Pry bar(s) ➢ Hammer/Power Drills ➢ Sledge hammer(s) ➢ Battery operated Flashlights ➢ Fall Protection Systems ➢ Chains and Slings ➢ Small Motor Powered Raft	

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Appendix A

Post Incident – Debriefing & Critique

- Page 1 –

MBCR

For use with:
Emergency Response Plan
(Storms and other Natural Occurrences)

Post Incident – Debriefing & Critique

Event :	
Date:	
Time:	
Debriefing/ Critique Location:	

PRESENT AT MEETING:

DESCRIPTION OF EVENT
(Winter Storm, Flooding)

COMMUNICATION DURING THE EVENT

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Appendix A

Post Incident – Debriefing & Critique

- Page 2 -

MBCR

For use with:
Emergency Response Plan (Storms and other Natural Occurrences)

Post Incident – Debriefing & Critique

EFFECTIVENESS OF EMERGENCY RESPONDERS

EQUIPMENT/ RESOURCES INVOLVED (Damage, Downloads)

WHAT WENT WELL

WHAT CAN BE IMPROVED

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Appendix A

Post Incident – Debriefing & Critique

- Page 3 -

MBCR

For use with:
Emergency Response Plan (Storms and other Natural Occurrences)

Post Incident – Debriefing & Critique

RECOMMENDATIONS

DEBREIFING CLOSED:

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3.D Best Practices Support

Initiative	Section	Category	Validating Information
Passenger Outreach – Promote "See Something, Say Something"	3A	Best Practice; Beneficial to Customers	In July 2010, the Department of Homeland Security (DHS), at Secretary Janet Napolitano's direction, launched a national "If You See Something, Say Something" campaign – a simple and effective program to raise public awareness of indicators of terrorism and terrorism-related crime, and to emphasize the importance of reporting suspicious activity to the proper state and local law enforcement authorities.
Terrorism Awareness, Recognition and Reaction Training Program	3A	Best Practice; Beneficial to Customers	Customer Service will continue to conduct training on Ongoing Terrorist Activity Recognition and Response. This course provides security and anti-terrorism awareness training to MBCR employees who have direct contact with the public/system and promotes the importance of identifying and reporting pre-attack terrorist activity
Transit Watch	3B	Best Practice; Beneficial to Customers	Transit Watch is a nationwide public awareness outreach campaign developed by the Federal Transit Administration (FTA), and the Department of Homeland Security (DHS), that encourages the active participation of transit passengers and employees in maintaining a safe transit environment. Many transit agencies have taken the campaign and adapted it as their own, or have instituted similar public awareness campaigns.
Full-Scale Emergency Simulations	3B	Best Practice; Innovative; Beneficial to Customers	The Federal Emergency Management Agency (FEMA) and DHS promote emergency drills and simulations help an organization test a hypothetical situation and evaluate the group's ability to cooperate and work together, as well as test their readiness to respond.

Summary

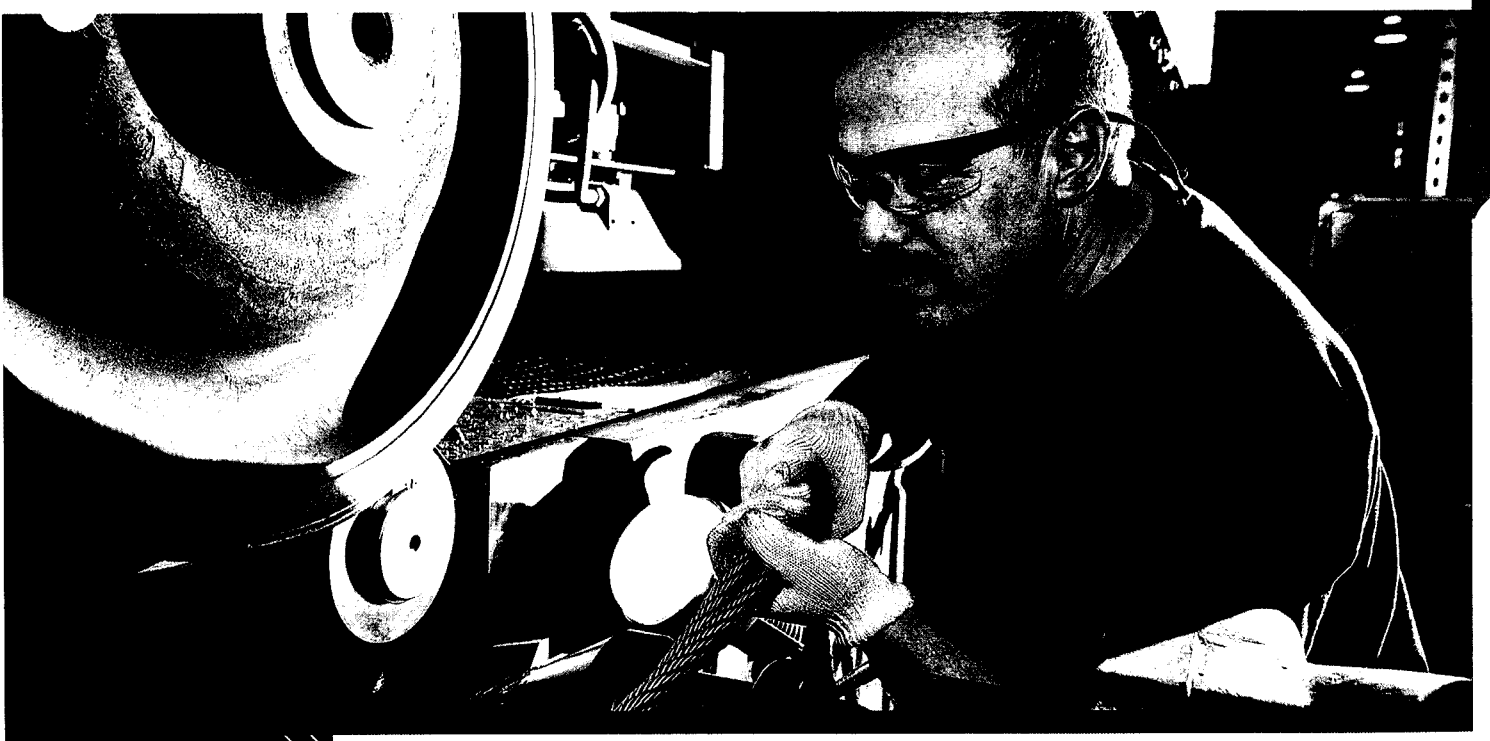
Public transit must operate as an open, accessible system to maintain its core function. However, drawing large crowds and serving densely populated neighborhoods and city centers may also increase the potential threat in the environment we live in today. But through planning and coordination with law enforcement, and with the riding public reinforcing these efforts with their vigilance in reporting suspicious activity, we can have both an open, accessible Commuter Rail system that operates seamlessly with enhanced security measures.

We will work closely with the MBTA Transit Police and the MBTA's Safety and Security Department to establish plans, procedures and training that address security issues. Using the most updated methods and information available, these efforts help to make the Commuter Rail system safe for customers.

Section 4 - Mechanical Services Plan

Section 4

Mechanical Services Plan Evaluation Factor Information



MBCR

Section 4 – Mechanical Services Plan Evaluation Factor Information

Overview

1. MBTA Objectives

A. Maximize equipment availability and reliability

B. Integrated approach to customer and employee safety and hazard reduction

C. Approach to Mechanical Services that preserves and prolongs asset lifespan

D. A plan for providing cost effective facility utilization, work scheduling and integration of new training and technology

E. Understand the economies of the integration of the new fleet as it is introduced to the Commuter Rail service and the associated maintenance changes that will accompany changes to the fleet

MBCR has met and exceeded the daily fleet requirement with clean, climate-controlled coaches for our customers. We have worked with the MBTA to institute the new Truck Shop which dramatically improved our productivity, modify aging rolling stock to perform better in severe winter and summer weather conditions, and to test, prepare and integrate new Rotem coaches. Going forward we propose an entirely new approach to the maintenance of equipment for greater efficiency and quality.

The result of this continued commitment is significant: we improved on-time performance resulting from mechanical delays by 16% (2012 compared to 2004). Our diligence also reduced hazards for employees, promoted safe travel for customers and maximized fleet availability and reliability.

We pledge to continue providing excellent service by focusing on efforts to maximize equipment availability and reliability while also ensuring the long-term value of MBTA's assets. We will strive to continually improve the customer experience for Commuter Rail patrons. This promise includes incorporating new technologies, enhancing skill sets to support MBTA's investment in locomotives and coaches, and capitalizing on more efficient processes to streamline repairs and maintenance, and reduce operational costs.

We are able to improve processes that will have a real impact on operations because we know Commuter Rail. Over the last 10 years, we have learned the nuances of each model and series of equipment, allowing us to anticipate service demands and environmental conditions, and deliver on expectations of reliability and performance.

Our history has given us the opportunity to acquire invaluable understanding of the Commuter Rail operation and the mechanical standards required to meet service demands. Our partnership with Bombardier has also allowed us to have access to extensive knowledge of the new Hyundai Rotem coaches (Rotem) and MPI Locomotives. This will be strengthened by our exclusive subcontract with MPI to provide technical maintenance support and materials for the new locomotives. This means we have the necessary insight to realize MBTA's future expectations, and aggressively meet the challenges associated with operating the Commuter Rail service.

2. MBCR Key Achievements

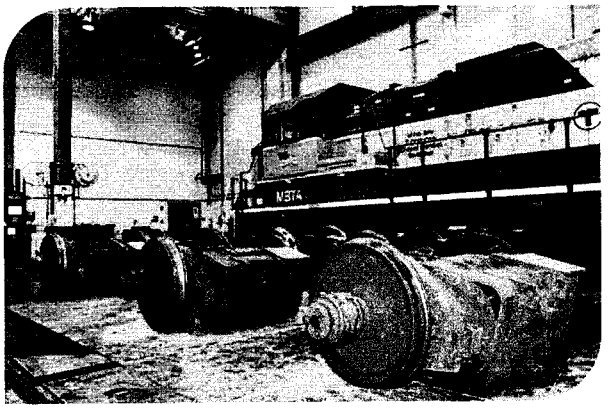
A strong focus on continuous improvement has allowed us to make significant progress in managing and improving the Commuter Rail system—one of North America's most complex. Here are some of the highlights from our current partnership:

We are Safer

- Improved the Safety Culture– We have achieved a 33% reduction in workplace accidents in 2012.
- Augmented Training and Equipment Quality– To ensure the safety of the Mechanical team, in 2005, 2006 & 2009 MBCR invested $143,000 in OSHA-approved Fall Protection Equipment and established the necessary training for the Commuter Rail Maintenance Facility (CRMF), Readville and Southampton shop areas to help protect workers when repairing or replacing overhead HVAC units on the fleet.

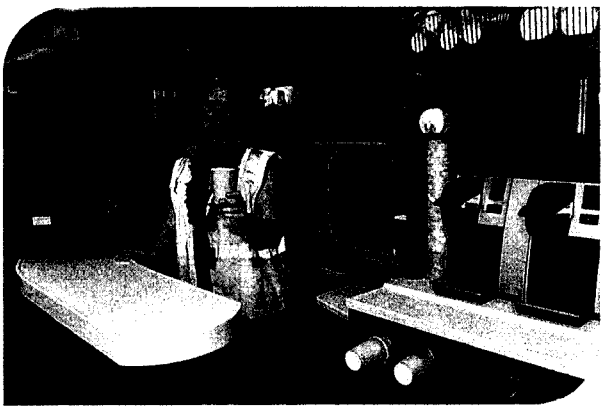
We are an Innovative Partner

- Established the first ever Mechanical Help Desk – In 2006, the Mechanical Help Desk began operation and has improved communication between Mechanical and Transportation crews and enabled field employees—such as Conductors and Locomotive Engineers—to more quickly troubleshoot mechanical issues with their trains. In 2012, on-time performance mechanical delay minutes improved by 16% compared to 2004.
- Enhanced Traction Motor Performance – MBCR designed a rigorous analysis process to reduce repeat failures of traction motors. We designed and installed a cover that protects the traction motor from moisture and debris. Improvements were also implemented for traction motor combo build-procedure detail and training. As a result of these improvements, traction motor repairs decreased 31% between 2009 and 2012.



As a result of our improvements, traction motor repairs decreased 31% between 2009 and 2012.

- CapeFLYER Service – MBCR crews readied the fleet for the return of seasonal direct rail service from Boston to Cape Cod. The trip from South Station to Hyannis includes a specially outfitted coach that provides on-board concessions and refreshments, including bar service. The MBCR team completed the necessary reconfiguration for the bar car as well as installing bike racks and bike tools so customers can bring their bikes – and even tune them up onboard - for their time on the Cape.



An MBCR employee tests out the new bar car installed by the Mechanical team.

Coach out-of-service time waiting for rebuilt trucks was reduced by as much as nine days as a result of having quality rebuilt trucks ready for installation.

We are More Reliable

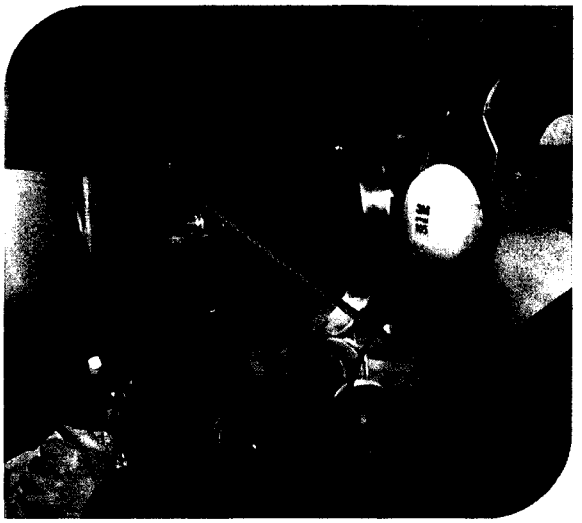
- HVAC Systems – We implemented a multi-year program to upgrade over 300 HVAC systems through replacements and rebuilds. In addition, a dedicated HVAC Manager was assigned to implement a specialized approach, incorporating new measurement tools and repeat failure reduction techniques. As a result, the fleet's HVAC system went from 89% reliability in August of 2006 to complete reliability, achieving a near perfect 99.97% reliability measure in 2012. These efforts have also produced a 99.5% reliability in the first half of 2013, which included a recent heat wave. As acknowledgement of this superior effort, MBCR's Mechanical team received a Performance Recognition Award from the MBTA in 2011 and 2012.
- Instituted a Dedicated Truck Shop at CRMF in 2011 – The shop's features include two newly installed 10-ton cranes, specialized lifts, enhanced workstations, process improvements, dedicated management and craft personnel, and upgraded equipment and tools for crews. A wall was removed and new tracks were laid that enable truck frames to be transferred between the Truck Shop and the Coach House allowing crews to efficiently perform periodic maintenance. MBCR's Truck Shop achieved ISO 9001 Certification in 2012. Coach out of service time waiting for rebuilt trucks has been reduced by as much as nine days as a result of having quality rebuilt trucks ready for installation.
- Improved the Winter Mobilization Plan – In response to a particularly harsh 2010 winter, we adjusted the Winter Mobilization Plan to pre-empt issues that adversely impacted Commuter Rail service. Our corrective actions were very successful as we experienced a 62% mechanical on-time performance (OTP) improvement in the winter of 2012/2013 when compared to 2010/2011. Overall, MBCR's OTP has improved significantly since the plan was adjusted. A comparison between the snowy winters of 2011 and 2013 shows a 16% improvement in unadjusted OTP performance as a result.
  - The improvements included investing in new equipment to mitigate the impact of snowstorms on service and improve recovery times.
  - MBCR's Mechanical team contributed by installing coverings for couplers that provide protection from water damage, wrapping power cables on trains in shrink wrap to elevate them preventing damage from snow and ice, and deploying portable air compressors at outlying locations to prevent freezing air brakes.

We are Efficient

- Support System Growth – Since 2003, we have added 17 daily revenue trains available for service. As a result, we now operate and maintain 63 consists in daily revenue service (added Worcester consist

in April 2013) as opposed to 54 consists in 2003. The increased efficiency of cleaning and maintenance processes for coaches and locomotives, as well as effective staffing made this increase possible. We were able to support MBTA's growth in revenue service while improving reliability.

- Preventative Wheel Truing - Launched a wheel-truing program in 2009 that increased the number of wheels trued on an annual basis. The resulting benefits included reduced rail wear and increased longevity, reduced wear of associated truck components and extended wheel life.
  - In 2012 we had a 16% reduction in wheel usage from 2011 and project to have a 5% reduction in wheel usage in 2013 compared to 2012
  - In 2012, wheel truing increased by 9.3% over 2011, and in 2013 projections based on the first quarter forecast a 17.2% increase in wheels trued versus 2012.



In 2013, projections based on the first quarter forecast a 17.2% increase in wheels trued versus 2012.

We Have Improved Quality

- ISO 9001 Certification – MBCR achieved certification in the Truck Shop, Traction Motor Shop and Wheel Truing Machine Shop in 2012.
- Maintained a High Level of Inventory Control – MBCR manages an inventory of over 16,000 items. Inventory counts are performed annually on all parts for accuracy of issuance and receipt. Over the past three years, MBCR has maintained 98% accuracy based on results of the annual inventory process.

MBCR manages an inventory of over 16,000 items and has maintained a 98% accuracy rate over the past three years.

We are Working Smarter by Leveraging Technology

Trapeze Enterprise Asset Management System (formerly AssetWorks/Maximus) Expanded Installation – In 2009, MBCR partnered with the MBTA to install computers at all end-of-line layover facilities and computer kiosks in shop floor locations. This investment provided full access to the Trapeze Enterprise Asset Management (EAM) system and SteelWheels, MBCR's intranet system. This gave employees at these locations direct access to equipment and procedural documentation and to real-time management reports.

We Are Knowledgeable About the New Fleet

- We have leveraged our partnership with Bombardier to establish regular group meetings to review performance of the Rotem vehicles and MPI Locomotives when they arrive. Bombardier is the only private service provider in the world with experience in maintaining and repairing the Rotem bi-level vehicles, and is the largest service provider in North America of MPI Locomotives. Bombardier maintains:

- 134 Rotem Bi-Levels for Southern California Regional Rail Authority (SCRRA) in Los Angeles
- 14 Rotem Bi-Levels at Southern Florida Regional Transportation Authority (SFRTA) in Miami
- 15 MPI Locomotives at SCRRA
- 57 MPI Locomotives at GO Transit in Toronto

The information provided by Bombardier through these meetings enhances our knowledge and experience, and allows us to proactively address the issues we can expect to face when these vehicles are integrated into the Commuter Rail fleet.

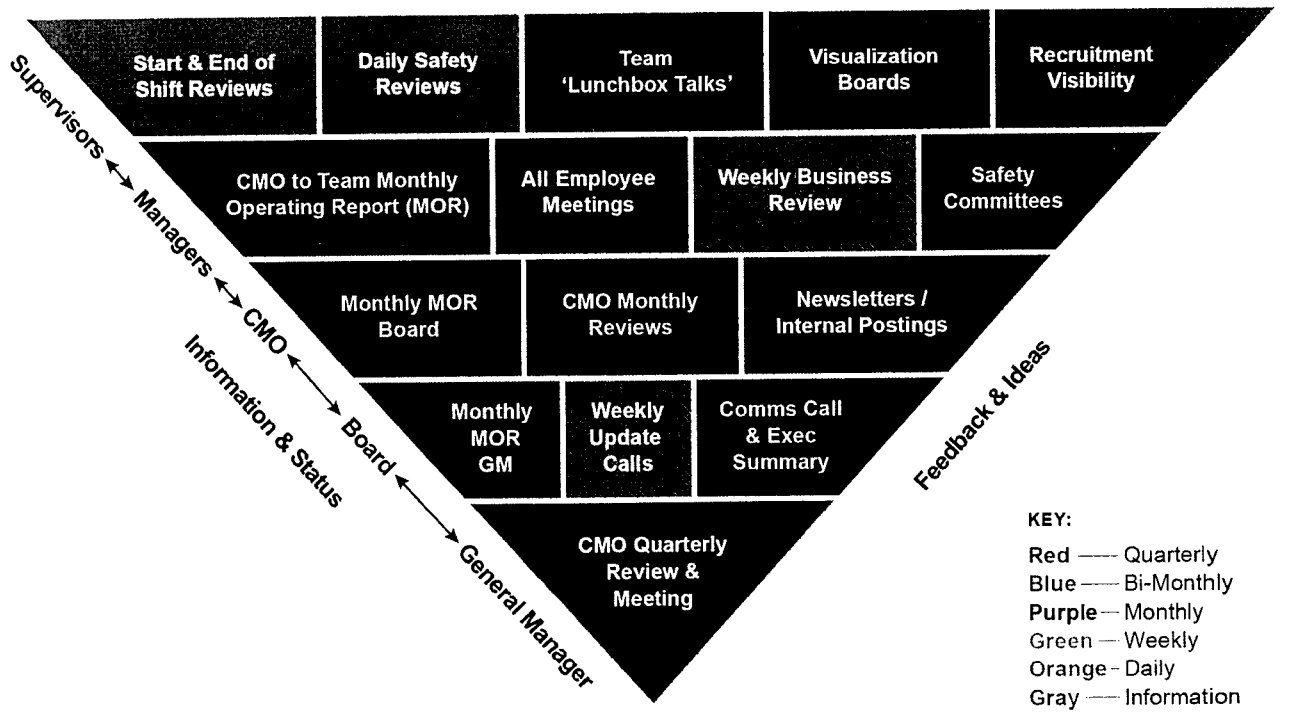
› We have bolstered our access to parts by further using the relationships Bombardier has with parts vendors for MPI Locomotives and Rotem coaches. MBCR is also using Bombardier's After Market Solutions group to realize savings through volume buying and vendor agreements.

3. MBCR Key Future Commitments

Over the past 10 years, MBCR has proven its expertise and capability by working hard to deliver trains that meet capacity requirements, and that are safe and reliable. We have grown with MBTA, adjusting our service as needs changed to provide the kind of maintenance this challenging environment requires. Now that the opportunity for a new contract term is here, we are looking forward to continuing this track record of outstanding customer service and adaptability with our partner.

MBCR is committed to driving cultural change within the organization. At all levels, our organization will be informed and participate in maintenance of the MBTA fleet. We will take people engagement and communications to the next level as can be seen in the Communications Triangle below.

MBCR Communication Building Blocks



Daily start of shift reviews will be completed using visualization boards to create two-way forums for communication involving each team in all safety and production requirements including:

- Proactive safety discussion that will create a forum for two-way communication, involve all of the team in safety awareness every day and make safety performance transparent
- Planning of workload and equipment moves prior to shift start
- Review of workload objective to be achieved with employees
- Assignment of tasks to individuals
- Review of any special safety requirement such as fall protection and other considerations
- Review of any tooling special requirement
- Review of special material requirements
- Open discussion with staff for any other issues
- Review previous days' production shortcomings – either due to quality of work, rework, insufficient production or other reasons

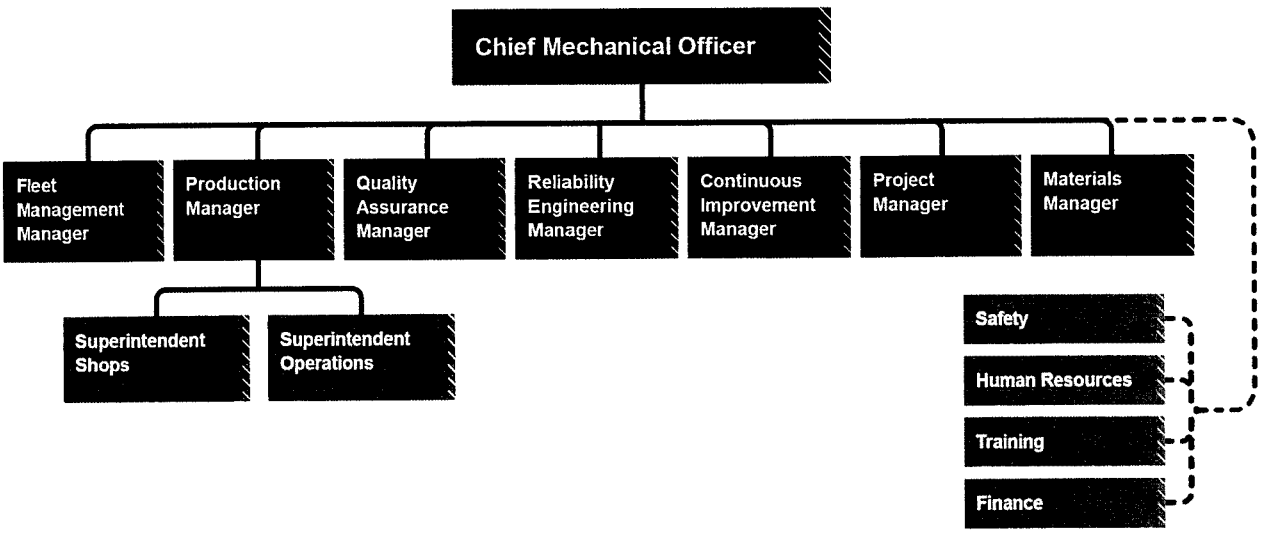
Weekly, monthly and quarterly business reviews will be completed by the Chief Mechanical Officer with supervisors and appropriate managerial staff. These meetings will ensure everyone is informed of the safety and operations performance, issues and business plans, and enable face to face discussion with support personnel.

This approach has proven benefits at Bombardier sites where staff become engaged in the business, all issues are addressed, and shop floor teams become motivated through awareness, participation and involvement in problem solving. The success of this approach is enabled by coaching and mentoring of supervisors for more effective meetings.

MBCR will implement cultural change techniques during mobilization, transforming our organization towards our communications and people engagement commitment.

We will fully implement Bombardier's World Class Operations & Maintenance (WCO&M) - a next generation approach to maintenance which is detailed elsewhere in this section. The success of WCO&M starts with having the right organizational structure to support the WCO&M principles which we explain in detail in Supplemental Appendix 2 – Mechanical. Therefore, MBCR will restructure our Senior Management team to manage maintenance of the MBTA fleet with this new approach.

Mechanical Organization Chart



- Chief Mechanical Officer - Overall responsibility for the Mechanical team reporting to MBCR's General Manager. The CMO will have a senior team of direct reports responsible for managing the Mechanical Department.
- Fleet Management Manager – Responsible for: management of the fleet in service; understanding issues as they occur and ensuring the necessary actions are taken to mitigate the issue and minimize downtime when a vehicle returns to a maintenance facility; short- and long-term planning of the fleet to maximize utilization, both in respect of planned and unscheduled activities; management of the Maintenance Operations Control Center to ensure all processes/functions are working in harmony; and maintaining the materials management system (MMS). Continuous development of the Operations Center, its processes and visual tracking.
- Production Manager – Management of the safety and quality culture (production and people); daily delivery of the fleet requirements through development of production processes and techniques to ensure most effective throughput and utilization; implementation and embedding of continuous improvement developments.
- Quality Assurance Manager – Responsible for managing the Quality plan of the maintenance organization.
- Reliability Engineering Manager – Real-time management of fleet failures as they occur to ensure root cause is understood; minimizing downtime on repeat failures; management of emerging issues which are affecting fleet performance; and developing solutions including technical, supply and production related issues. Coaching, mentoring and development of shop floor in terms of their impact to fleet performance.
- Continuous Improvement Manager – Focused on real time and constant monitoring and review of fleet performance; maintenance strategy and production techniques and other operations to understand, develop and implement ways to improve performance (safety, cost, quality, utilization and performance).
    - Includes: management of shop floor interface; production throughput processes; maintenance optimization and overall responsibility for initiating improvements within the organization
- Project Manager – Project management of all key projects associated with the fleet. This function is responsible for coordinating all functions/parties to achieve successful long-term projects opportunities and risk mitigations. Such projects could include major overhauls, development/implementation of new maintenance regime, and major maintenance optimization events.
- Materials Manager –Real-time management of emerging material requirements and material reliability/availability/quality issues; management of suppliers to ensure above issues are effectively addressed. Ongoing supplier development to ensure long-term operational/quality performance; long-term material planning aligned to the fleet planning requirements and changes; management of obsolescence including long-term risk planning; management of usage to understand daily and long-term consumption against plan and reason for it. Feeding back to necessary functions where discrepancies highlighted; effective warehousing and float management to minimize capital investment and ensure operational performance of the fleet.
- Support is provided to the Chief Mechanical Officer in the areas of Safety, Training, Human Resources and Finance.

Our Management team will work together to provide all requirements of the RFP. Our positions and reporting structure will ensure the Chief Mechanical Officer is fully informed on all aspects of the business to lead an effective organization based on informed decisions.

In anticipation of our continued relationship with the MBTA, we have already begun implementing WCO&M processes. By leveraging our experience with MBTA, we have developed a plan that will meet and in many cases exceed requirements. Because we know MBTA's business, we know how to

MBCR has acquired a deep understanding of MBTA's vision of service delivery and customer expectations. We are now ready to combine this experience with WCO&M. We will deliver a leaner, more strategic and technologically advanced operation and provide a greater standard of customer satisfaction.

Please Note: *This "T light bulb" icon will be used throughout this section, and the proposal, to identify our proposed innovations for the next contract period.*

Highly Efficient Operation

- Reorganize the Management team as part of the WCO&M Organizational Design element.
- Create a dedicated Fleet Management team to effectively manage planning, tracking and recordkeeping as well as essential functions such as the Fleet Maintenance Plan and Maintenance Production Plan.
- Quality Assurance of Trapeze EAM, specifically for information completeness and accuracy, and all required reporting.
- Utilize even further the new set of cleaning standards which allow us to exceed the requirements. An interior Class A cleaning includes only five additional tasks over and above an interior Class B cleaning. Our new set of standards maintains these requirements at the lowest cost to MBTA made possible by distributing those additional five tasks along with the Class B cleaning, covering the entire fleet over a 30-day period.
- Improve the efficiency of performing Maintenance Inspections by using WCO&M to facilitate implementation of lean principles, standard documentation and the use of work element sheets to ensure quality and reduce the time to complete inspections.
- Optimize daily maintenance servicing by using the Terminal Service clock our Transportation Department developed which analyzes each train at each location to determine the optimum service period by establishing consistent arrival and departure times.
- Ensure accurate parts reporting by implementing a bar coding system for inventory issuance and receipt of materials. This system will link with Trapeze EAM and provide efficiencies for stores and mechanical staff.
- Install parts vending machines to give technicians easy access to items such as personal protection equipment (PPE), gloves and low-cost consumables. Since technicians have to input ID numbers when using vending machines, they provide excellent traceability. The system is internet-based and can provide immediate reports to help with issuance management.

Maximization of Fleet Availability/Reliability

- Maximize equipment reliability and availability for service by integrating LCM into the maintenance inspection periods which will reduce unscheduled maintenance costs. This preventative maintenance approach focuses on correcting failures before they can develop into major defects. Corrective maintenance is performed on any failures or defects of a component or system that occurs before its scheduled end of useful life, and LCM data is collected to further improve maintenance performance.
- As a part of LCM evolution, we will transition the LCM maintenance process in year three from Original Equipment Manufacturer (OEM) based periods to Reliability Centered Maintenance (RCM), a data driven approach that will identify the right maintenance requirements at the right time. Using the RCM approach, MBCR will further maximize equipment reliability and availability while minimizing the costs associated with equipment failures.
- Perform locomotive and coach inspection work on a dedicated South fleet using the South Side facilities. This will eliminate time out of service while equipment travels to the North Side facility as it does today. This new balanced workload approach will provide MBTA with maximum fleet availability and will ensure efficient use of all existing facilities.
- Implement a stringent failure review process to identify problems and implement corrective actions throughout the maintenance process. A Failure Review Board (FRB), Short-term Trend Analysis and Failure Reporting and Corrective Action System (FRACAS) will identify and correct trends that can be addressed as they evolve.

Locomotive and coach inspection work will be performed on a dedicated South Side fleet helping to maximize fleet availability.

Capital Investment to Elevate Performance – MBCR

- Purchase a mobile fueling truck (Section 4.A.4) – It will be used to fuel trains in the layover yard at CRMF to facilitate equipment fueling of trains from North Station. This will augment operational flexibility and relieve congestion.
- Alternating Current Field Measurement Technology (Section 4.A.9) - Inspect wheels prior to truing defects using Alternating Current Field Measurement (ACFM) technology that will extend wheel life by not over/under cutting wheel defects.
- Sentio Technology (Section 4.A.9) - Improve throughput time by using Sentio Technology to allow a technician to enter equipment faults into a shop floor kiosk or handheld device and obtain the optimal repair solution.
- Health Monitoring System (Section 4.A.9) - Monitor the critical systems of locomotives using GPS Health Monitoring System to reduce maintenance costs by identification of problems.

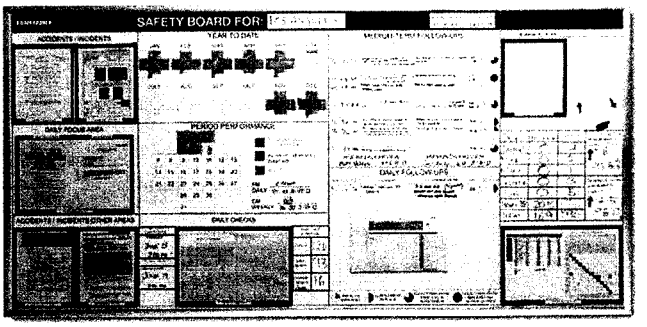
Improvement Proposals for MBTA

- MBCR's partners have created a feasible action plan that outlines the needs and costs associated with the development of a South Side Commuter Rail Maintenance Facility. It would be envisioned to start operation by the third year of the contract should the MBTA agree, and will enable completion of all maintenance of dedicated South Side equipment (see Supplemental Appendix 2-Mechanical). This new facility will also allow us to discuss with the MBTA the possible conversion of the existing Readville facility into a locomotive shop and possible location to maintain the DMUs.
- Investing in an additional car wash at Southampton S&I will provide efficiency and growth capabilities for satisfying exterior washing of train consists. While the proposed exterior wash requirements can be met for the South Side fleet with planning consist rotation, further growth of South Side equipment would challenge the ability to wash the exterior of consists every three days.

Safety Management

MBCR is committed to providing safe, secure, reliable and efficient service to all of our customers. We always make sure all of our staff are accountable for the safety and security of customers, employees, property and transit users.

We build safety into all management, training and work plans across the organization, using the tested principles of WCO&M every step of the way. Moving forward, we will incorporate a safety management process into the Mechanical Department's operations. This will support an improved safety culture.



A Safety Visualization Board used at SCRRA in Los Angeles.

Safety will be the first subject discussed at the manager-led morning meetings. Visualization and a short five-minute team review each morning will accomplish the following:

- Ascertain team performance quickly
- Track accident/incident occurrences by area
- Review and discuss health and safety alerts
- Capture safety concerns raised by staff, identify action holders and quickly resolve
- Improve safety awareness of all personnel, including contractors, customers and employees

A critical part of our safety culture is our "Evolution to Safety Excellence" wheel, which will be added to our maintenance approach. Evolution to Safety Excellence provides a framework to help an organization maintain focus on being accident-free.

Evolution to Safety Excellence

The wheel illustrates the five factors essential to creating an accident-free workplace and a safety culture:

- **Organization:** An effective structure that incorporates top-down commitment to safety and careful governance.
- **Commitment:** All employees participate in safety leadership. The maintenance organization will ensure that safety is the first item on every agenda.
- **Measurement:** Measurement is a key mechanism by which a maintenance organization becomes a proactive safety organization. Data allows us to build goals and targets for continuous improvement so that efforts are focused correctly.
- **Communication:** Open, honest and effective dialogue is essential among all levels of the organization. Building an accident-free culture requires keeping the lines of communication open.
- **Education and Training:** Education and training is necessary to improve the skills, tools and competencies of employees and partners so that they can achieve and maintain an accident-free environment.

When the safety management system was introduced into Bombardier's GO Transit site in 2012, accidents reduced to two in the last six months of the year as compared to 18 in the first six months.

Quality Data and Processes

- Supplement our Mechanical team with a Manager of Quality to help create a culture of continuous improvement through fact-based, data driven analysis, employee engagement and the use of ISO, ANSI and ASQ standards.
- Continue training programs across the organization for managers on the application of quality management tools and techniques to allow staff to obtain ASQ certification upon completion.
- Implement additional Trapeze EAM modules for data collection, stratification and analysis to support the transition to a data driven, quality assurance based organization focused on continuous improvement.

New Locomotive Technology

- MBCR has secured an exclusive subcontract with MotivePower, Inc/Wabtec Global Services, Locomotive Services (MPI) to provide locomotive technical maintenance support and materials for MBTA's 40 new MPI HSP46 diesel electric passenger locomotives. This is a multi-year solution that includes material support for the various functions of the maintenance cycles as well as technical support.

Day-In-The-Life *of* MBCR Mechanic

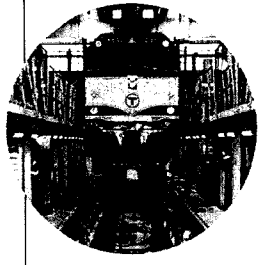
Locomotive Shop Supervisor checks and updates track side visualization board for awareness on inspection progress of unit 1055. Supervisor will continue to check and update every 2 hours.

Visualization Boards are updated for Start of Shift meetings.

Fleet Management leads a 3 year maintenance look ahead planning session.

Truck Shop completes 4 year truck rebuild and pass from QAR. Truck will be installed on coach 906 in 7 days.

Visualization boards are updated by Supervisors for afternoon shift start.



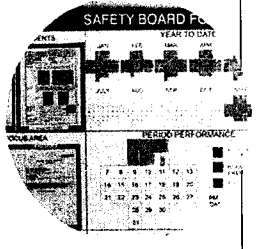
Mechanical Desk assists crew on unit 1051 to resolve a HEP problem.

Chief of Mechanical attends second Daily Operations Call with multiple departments to prepare for afternoon peak.

Materials Management (Stores) prepares materials kit for unit 1017, receiving a 184 day inspection in 3 days.

6:00 AM

Midnight



Supervisors conduct daily Start of Shift Meeting with visualization boards with updated safety & performance figures.

Mechanical managers attend Daily Operations Call with multiple departments to review morning peak.

Train sets start arriving at S&I to be inspected, cleaned and perform light repairs for afternoon peak service.

Production Manager holds Team Lunch Box Talk with Coach Shop employees.

Layover facilities complete daily maintenance inspections: Unit 1014 receives a 92 day inspection at Southampton S&I. Coaches 775 and 730 receive a "Class-A" cleaning at Franklin.

MBCR

Elements of the Mechanical Services Plan

4.A Mechanical Services Plan

4.A.1 Maintenance Planning, Tracking and Recordkeeping

Consistently delivering safe and reliable equipment requires an optimized maintenance planning, tracking and recordkeeping system. As part of the WCO&M implementation, MBCR will create a dedicated Fleet Management team to effectively manage these essential functions including the Fleet Maintenance Plan and Maintenance Production Plan.

To ensure that the Mechanical Department consistently delivers safe and reliable equipment, MBCR will implement a dedicated Fleet Management team.

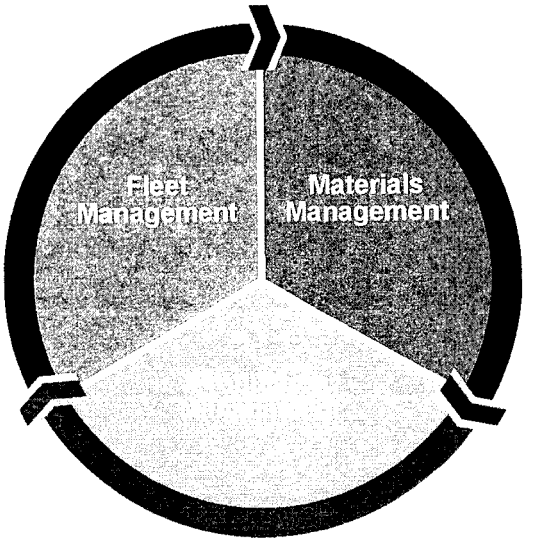
MBCR will consolidate a number of maintenance support activities under the Fleet Management team. This change will optimize maintenance planning and workshop loading. Work Order management and completion will also be a function of the team providing improved recordkeeping and data reporting quality with all work orders being returned to one location for completion and filing. By managing the tasks associated with work planning, the Fleet Management team provides an additional benefit of managers and supervisors having more face-time with shop floor employees so that their work is safe, efficient, and of high-quality. The key improvements we will make include:

- Resource to workload matching of staff across shift and location, facility optimization, advanced planning, material kitting and line-side deliverables
- Improved safety and quality as a result of balanced work flow, information-sharing with teams, increased knowledge and standardized work by location
- Cost effectiveness realized through optimized planning by reducing or eliminating non-productive time
- Increased vehicle availability and reliability as a result of real-time monitoring of in-service performance, supported by focused Failure Review Board meetings (as described in section 4.A.8), weekly and monthly reliability meetings
- Identification and rectification of failures using Root Cause Analysis
- Increased customer satisfaction resulting from more dependable delivery of trains at the right time, at the right place, to the right quality standard, at the right cost

The new Fleet Management team will be overseen by a dedicated manager who will focus on fleet maintenance planning (short term and long term out to five years) and provide advance notice of requirements to Materials and the Production Management areas. Advanced planning is essential to ensure: (a) materials are available when needed; (b) shops can plan manpower assignments; (c) schedules remain on target; and (d) that the workload remains consistently balanced. This will provide maximum availability of equipment through the reduction of unnecessary wait times.

The Fleet Management team will be responsible for the following:

- Implementation and management of the LCM program
- Planning all rolling stock maintenance
- Scheduling work and communicating with Materials and Production Management
- Ensuring the consistent and accurate capture of data to support required reporting and KPIs such as Mean Distance Between Failure (MDBF), Mean Distance Between Component Failure (MDBCF), Mean Time Between Service Failure (MTBSF), Configuration Management, etc.
- Coordinating with Materials Management for line-side delivery of material kits



The Fleet Management Team will also be responsible for participating in the failure review process, Quality Assurance of Trapeze EAM – information completeness and accuracy, and all required reporting as specified in the RFP.

MBCR is always working diligently to make our strong teams even more competent. Our analysts have reviewed the new RFP requirements and we have developed a plan to enhance our utilization of Trapeze EAM modules to provide the transparency sought under the new agreement providing Fleet Management and all of our teams with the tools to perform. Our utilization of these modules will provide:

- Asset Management based on LCM
- Rolling Stock Maintenance Management
- Materials Inventory Management (fully explained in section 4.A.8)
- Reporting MDBF, MTBSF, and MDBCF
- Planning, scheduling and required reporting
- Configuration management and warranty management recordkeeping

Real-Time Knowledge

Inspection, maintenance and repair are the three elements that have the greatest impact on equipment reliability and availability. It is critical for these elements to be controlled and monitored and to ensure the plan is being met day in and day out. WCO&M addresses this issue with complete governance on a daily basis. Planning and preparedness is essential to ensuring the business runs to plan and that issues are identified early so they can be quickly addressed and resolved. This can only be efficiently accomplished by understanding what is occurring in real time which requires a streamlined communication process.

Maintenance Operations Control Center

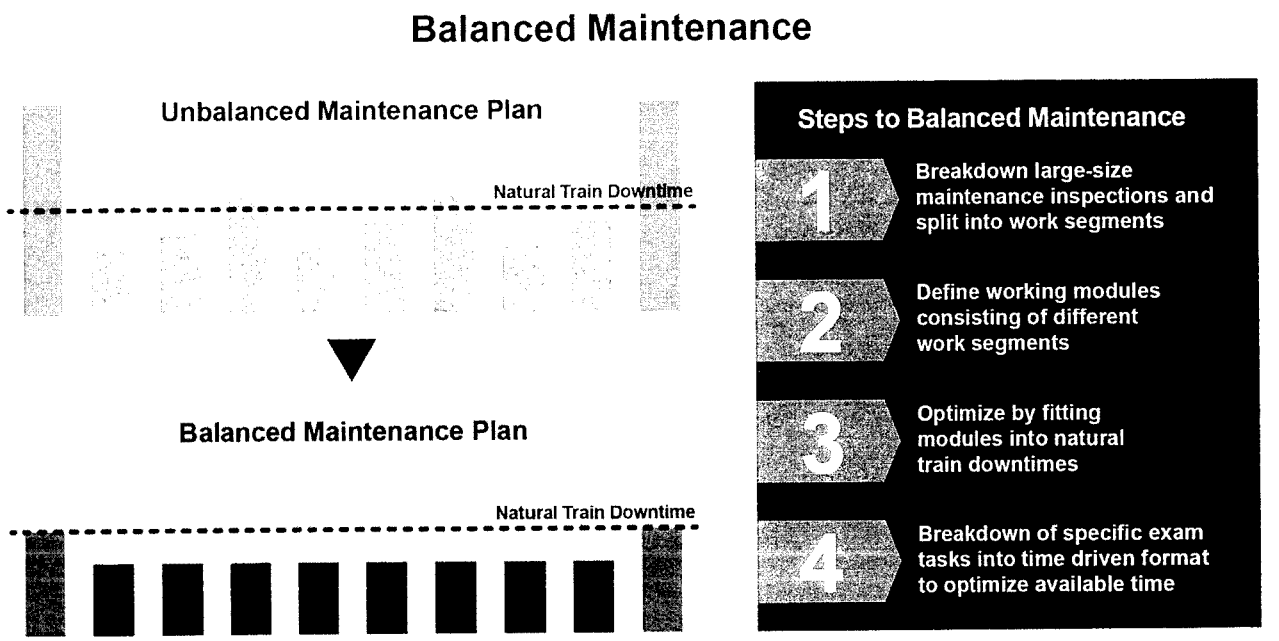
As part of the maintenance plan, MBCR will implement a Maintenance Operations Control Center (MOCC) staffed with key managers (planning, production and materials) working together on a real-time basis. Visualization boards will be designed to ensure all activities are on schedule. The MOCC will provide the following benefits:

- 24/7-manned hub
- Real-time monitoring of vehicle performance
- Continuous support either on-site or via telephone or video call
- Real-time management of failures allowing for standardized workload
- Understanding of containments and mitigations transmitted to the rest of the fleet
- Feedback of lessons learned back into operations
- Reporting, including reliability trend analysis to identify root causes of issues

The Maintenance Operations Control Center is designed to ensure all activities are on schedule.

Balanced Maintenance Strategy

MBCR will create an optimized maintenance strategy or balanced workload to ensure workflow is steady and manpower is available for the required work. Through a balanced workload approach, manpower utilization can be planned efficiently and equipment downtime minimized. This is accomplished through a four-step process:


Balanced Maintenance
Unbalanced Maintenance Plan
Natural Train Downtime
Balanced Maintenance Plan
Natural Train Downtime
Steps to Balanced Maintenance
1
Breakdown large-size maintenance inspections and split into work segments
2
Define working modules consisting of different work segments
3
Optimize by fitting modules into natural train downtimes
4
Breakdown of specific exam tasks into time driven format to optimize available time

More efficient use of staff and facilities will result in increased vehicle availability and reliability, provide cost efficiencies due to balanced work flow, standardization, improved information and communication all leading to more reliable service for our riders.

4.A.2 Fleet Inspection, Maintenance and Repair

Maintenance

At the forefront of the inspection, maintenance and repair process is our philosophy for the need to focus on Preventative Maintenance, Corrective Maintenance, stopping defects from reoccurring and location strategies for efficient use of facilities, equipment and manpower.

Our fleet maintenance strategy is based upon the concept of LCM with the objective of optimum and safe product availability for revenue service. Through real-time monitoring of in-service and in-maintenance performance and the effective use of Trapeze EAM we shall ensure that our resources - human, facility, plant and material - are aligned to effectively utilize the service downtime of the fleet.

To achieve this strategy our primary goals are the prevention of failures and sub-optimal product performance to improve the total asset life cycle. Our preventative approach shall include the creation of a 24/7 Maintenance Operations Control Center, standardized and balanced integrated processes, Reliability Centered Maintenance, robust operational planning, training and competency, root cause failure analysis and resolution.

Asset Management – Life Cycle Maintenance

Our LCM concept is the foundation of our approach to asset management, which will ensure the delivery of safe and reliable trains that meet capacity requirements. We will employ LCM on the existing equipment (excluding MBB), the new equipment including MPI Locomotives and Rotem coaches, as well as DMUs if they are implemented in the future.

Using the principles of WCO&M, our experienced maintenance managers and staff will develop inspections and maintenance activities designed to prevent in-service failures. We will work with all OEM vendors to determine specific component life cycles, and to execute our Fleet Maintenance Plan to prevent disruptive failures.

MBTA has stated in section 3.2.1.5 of the RFP regarding LCM that: *"The goal of this philosophy is to prevent in-service failures through an extensive campaign of identifying milestones in a component's life where inspection, servicing and/or replacement are critical to maintain 100% reliability of the component and its system."* To accomplish this goal, MBCR will evolve LCM to a Total Operations and Maintenance approach, including Reliability Centered Maintenance (RCM), which is truly the only way to accomplish this goal and realize full life of a component. As the MBTA knows, true life cycle of a component depends on its duty cycle and operating conditions that can alter the life cycle time stated by the OEM. Our RCM approach will factor in these conditions through tracking of MDBCF data that will truly allow MBTA to realize full life cycle of a component before failure.

With this LCM evolution in mind, we will implement the LCM program as a two-stage project. Our approach will focus on the 15 systems identified in Schedule 3.3 Table 1.7 of the RFP. The LCM work will be coordinated with planned maintenance inspections—the benefit of this will be that vehicles will not be removed from availability strictly for LCM activities.

We will evolve LCM in two stages with the first stage being based on OEM specifications and then when we have captured enough historical data provided by our MDBCF reliability analysis, we will evolve to the second stage of our LCM approach being RCM. We expect our Total Operations and Maintenance approach be introduced by year three after accurate historical data has been captured.

LCM Evolution

First Stage – Define OEM requirements, develop baseline, implement

- Enhance Trapeze EAM functionality to ensure flags are set for due dates and the expected life cycle; note that the LCM program will be fully described within the Equipment List (EList) and Maintenance Allocation Charts (MAC) as per the RFP
- Input Original Equipment Manufacturer (OEM) expected life cycle to the component level detail within Trapeze EAM, as required
- Use existing data study to prioritize implementation based on failure impact, frequency, component cost and lead-time; the prioritized plan will be submitted to MBTA for approval along with the work stream owners' timescales
- Introduce governance process to ensure timely, accurate input of data for component failures and replacements
- Use data point measurement on inspections to develop accurate life-cycle curve
- Ensure optimal efficiency and availability by balancing workload activities across the inspection program to avoid workload peaks
- Support work balancing by producing Standard Work for each task; work will be sequenced and allocated to specific and trained personnel to maximize efficiency

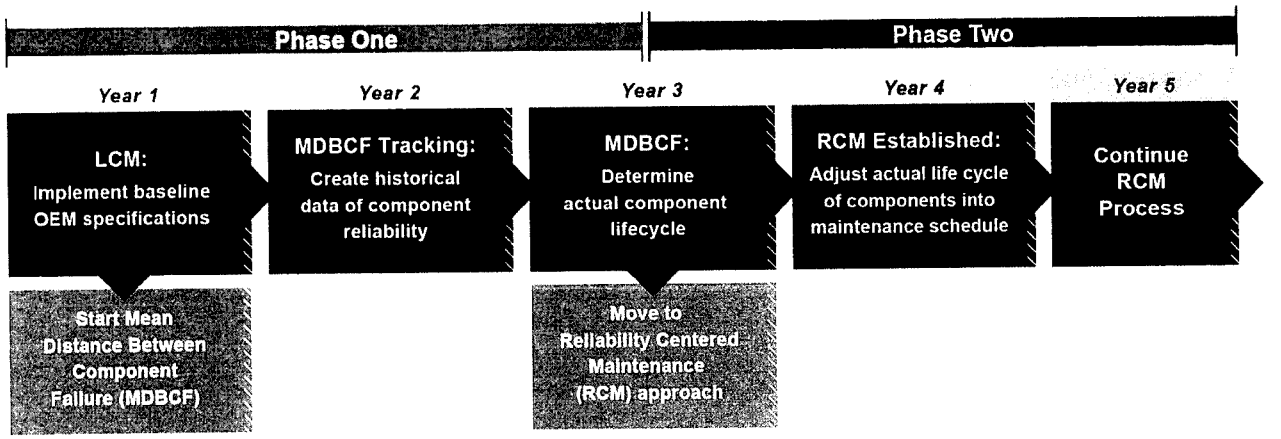
Once these activities have been completed, the LCM program will be ready for incorporation into the fundamental elements of WCO&M, allowing us to fully initiate a RCM approach.

Second Stage – Build a continuous improvement culture that supports robust LCM with an RCM Approach

At the core of our LCM approach is the philosophy of Total Operations and Maintenance, including RCM. With the data driven information received by MDBCF reporting, we will use RCM to identify the right maintenance requirements at the right time. Using the Total Operations and Maintenance approach, MBCR can maximize equipment reliability and availability while minimizing the operational and financial costs associated with equipment failures. Our activities will include:

- Holding failure review meetings twice daily, weekly and monthly using data displayed on Visualization Boards; this will make it easy to involve subject matter experts and shop floor technicians with the process to support prioritized practical problem solving
- Executing Task Optimization I: Once the LCM program is established, the maintenance program will be continuously challenged to maximize unit performance, optimize task frequency, material type and consumption. It will also provide a clear governance process to verify that activity is ongoing and that the staff is engaged in creating solutions to problems that have been identified.
- Executing Task Optimization II: This phase achieves total asset value improvements with MDBCF tracking. With this method, components are tracked for actual life expectancy and can be adjusted for replacement in the LCM concept. For example, the OEM schedule might dictate that a component be changed out every three years, however, through MDBCF tracking we might determine that the component will last for four years before failure. In this instance we would then adjust the schedule to change the component out in the fourth year, with the benefit of an additional year of useful life. Conversely, a component may be required to be changed out every two years, but MDBCF tracking reveals the component fails every year. In this case the component could be adjusted for change out every year if no other option were available to extend the component's life. This method results in a cost base improvement and maintains equipment reliability. We carry out task maintenance intervention before failure, providing savings in material spend and labor hours.
- Carrying out full risk assessment and condition checks with the formal MBCR engineering change process; sign-off will be required before presenting the case to MBTA for further sign-off and authorization
- Including any impact or input from the OEM as appropriate; the extension of tasks will be prioritized based on the risk to fleet safety and operation, and the cost of materials and time
- Transitioning from a parts-centered approach to a Total Operations Maintenance approach that focuses on the activities that most impact fleet availability

LCM Evolution Chart



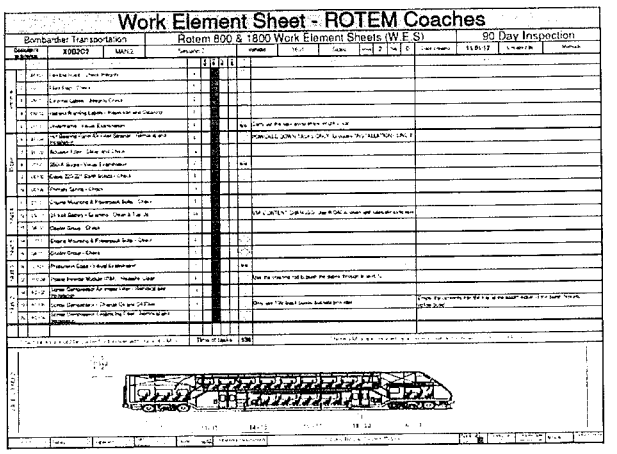
Actual life cycle component use & 100% reliability

Standardized Maintenance Processes

Standardized maintenance processes are at the basis of a repeatable and measurable maintenance system, and provide the platform for continuous improvement.

The first step is to balance the maintenance workload with revenue service requirements. We will adjust workload to optimize a unit's natural downtime and to balance labor utilization comparing availability requirements with process time (and individual task times), labor time and any set-up times.

Each inspection will have standardized documentation to detail each technician's task. The Work Element Sheet shown here shows task sequence aligned with task times, risk assessments, competency, and key safety and process points. It provides pictorial locations of tasks on the vehicle and shows operator "walking routes" to improve efficiency and effectiveness of technician's time. Through staff engagement and process development, the Work Element Sheets are created by the people that use them every day. This improves communication and ultimately our maintenance targets and objectives.



Inspection

MBCR has already leveraged facility capabilities to improve equipment availability and better utilize assets, for example:

- Increased use of the Readville wheel-truing machine for coaches and locomotives
- Two-ton crane installed at Readville to perform HVAC work, reducing movement from South to North Side for roof HVAC repairs

› Mobile platforms have been installed at Southampton S&I for overhead HVAC repair work

The preventative maintenance approach focuses on preventing and correcting failures before they can develop into major defects. Our plan for performing preventative maintenance inspections not only meets the requirements as specified in the RFP for all types of equipment, but also focuses on improving the inspection process over a three-year period, maximizing equipment availability and facility utilization through the inspection process and balancing the inspection duties to ensure a steady work flow that minimizes the equipment out of service. Daily Inspections are further described in Section 4.A.4.

The MBTA fleet is split by North and South Sides due to a limited access connecting track between North and South Stations. Each side requires specific equipment based on service demands, thus equipment is not easily mixed from side to side to meet revenue service demands. The required fleet is defined as:

› North Side Requirements – 24 consists = 24 locomotives and 133 CTC/BTC (133 = 129 UniLevel and 4 BiLevel)

› South Side Requirements – 38 consists = 38 locomotives and 228 CTC/BTC (228 = 126 bi-levels and 102 single level)

With the CRMF located on the North Side, maintenance of North Side equipment is easily transferrable to the facility, however, the South Side equipment requires special movement to CRMF when inspections are required. Current practice has been to move all 92 day and above locomotive inspections from the South to the CRMF for inspection work. A close review of this practice indicated:

› Vehicle cuts and transportation back and forth from South to North adds operational costs and constraints that can be eliminated

› Currently, all 92-day, 184-day, annual and above locomotive inspections are performed at the CRMF, but the majority of locomotives are on the South Side.

› A one day 92- or 184-day inspection makes a locomotive unavailable for a minimum of three days, including one day of transportation each way.

Overall - 46 units South Side including 1 spare & 7 stopped - 38 required for service

Current State

45 day inspections done South Side on South Side-based locomotives
92 day and greater sent to North Side for maintenance

Inspection Type	45	92	45	184	45	92	45	368
Location of Inspection	South	North	South	North	South	North	South	North
Trips Southbound	0	47	0	47	0	47	0	47
Trips Northbound	0	47	0	47	0	47	0	47
Total Trips				376				

CTC and BTC cars experience the same challenge when work is required at the CRMF. Currently all 92-day and 184-day inspections for CTC and BTC 180-day inspections are performed at Readville. Inspections above these requirements are transferred to CRMF. As with locomotives, the majority of cars are located on the South Side.

MBCR has developed a phased approach to increase equipment availability using South Side facilities to perform locomotive and coach inspection work on a dedicated South Side fleet that will eliminate unnecessary out of service time for equipment moving to the CRMF. Combined with the North/South operational change, MBCR will implement a new balanced workload approach to performing coach and locomotive periodic inspections that will provide MBTA with maximum fleet availability and efficient use of all facilities.

Our proposed solutions for inspections maximizing availability and reliability are based on the following changes:

› Locomotives, CTCs and BTCs will be maintained on their respective sides for the following identified inspections:

- Locomotives – 46-day, 92-day and 184-day inspections
- CTC – 92-day, 184-day, 368-day inspections
- BTC – 180-day

Future State

45, 92 and 184 day inspections done South Side-based locomotives
Annual and greater sent to North Side for maintenance

Inspection Type	45	92	45	184	45	92	45	368
Location of Inspection	South	South	South	South	South	South	South	North
Trips Southbound	0	0	0	0	0	0	0	47
Trips Northbound	0	0	0	0	0	0	0	47
Total Trips	94							

› This change from current practice will provide availability of one additional locomotive and two coaches to the daily spare pool. This increased availability is realized purely through eliminating the time lost for transfer moves between the South Side and CRMF.

› Within the first year of the contract:

- MBCR will reallocate manpower to the South Side to perform all 92-day and 184-day locomotive inspections at Southampton S&I during the night shift. The Pawtucket facility will also be used within two years once construction of the new building is complete.
- Inspections will be performed in night shift windows at Southampton S&I so as not to disrupt daily servicing, and during the day at Pawtucket to avoid disruption of the night time layovers.
- All 92-day, 184-day and 368-day CTC coach inspections will be performed at Readville.
- All 180-day BTC inspections will be performed at Readville.
- Breakdown of specific inspection tasks into a time driven format to optimize available time.

› By the second year, MBCR will consolidate 92-day and 184-day inspection tasks to achieve a standard balanced workload for locomotives and CTC. Our objective is to take a progressive approach and eliminate the 184-day inspection as it is today and replace it with a 92(a)- and 92(b)-day inspections of equal effort/duration. These two inspections will complete all required tasks within specified FRA and MBTA requirements. The balancing

MBCR will implement a new balanced workload approach to performing coach and locomotive periodic inspections that will provide MBTA with maximum fleet availability and efficient use of all facilities.

of these tasks and manpower provides an improvement of one additional locomotive to the spare pool.

- By the third year, MBCR will move to a 23-day Preventative Maintenance (PM) inspection cycle that will complete all tasks for the 92-day and 184-day inspections allowing the locomotive and CTC to be inspected in consist during daily servicing time. The balancing of these tasks and manpower provides an additional locomotive to the spare pool.

The above changes not only maximize facility utilization, but maximize equipment availability:

- **First year availability improvement = One locomotive and two cars daily**
- **Second year availability improvement = Two locomotives and two cars daily**
- **Third year availability improvement = Three locomotives and two cars daily**

Improvement Proposal

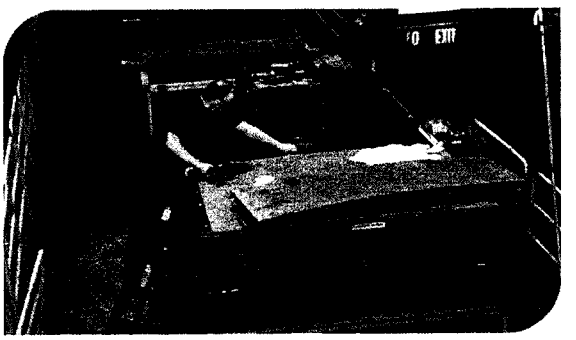
To provide further support for utilization of the current and future commuter rail fleet, MBCR's partners have included an Improvement Proposal for the next contract. Due diligence and feasibility studies for a new facility have been performed. This facility could be constructed from the existing rail-access Stop & Shop facility that will enable complete maintenance of dedicated South Side equipment (see Supplemental Appendix 2 - Mechanical for full study). As detailed in the Appendix, our phased approach will allow us to use the facility as it is being developed as a Training Center for instruction on how to maintain and repair the new Commuter Rail equipment.

The new facility will also allow us to review with the MBTA the possibility of converting the existing Readville facility into a locomotive shop or a facility to maintain the DMUs that may be introduced. The new facility will provide an excellent opportunity to change current labor work practices and drive cultural change. If the South Side Maintenance facility is approved, and the MBTA agrees with investing in converting the existing Readville facility into a locomotive or DMU shop, it could be in operation by year six of the contract. This would greatly enhance the efficiency of equipment maintenance and provide the benefit of additional capacity to accommodate any future service expansions.

Repair

MBCR has planned changes in our maintenance approach that include improvements for corrective maintenance and repairs that will increase availability and reliability. As referenced in the organization chart, this will be led by our Reliability Engineers identifying issues that require improvement and our Continuous Improvement team who will work to correct the issues, possibly in conjunction with the Project manager for large projects. Together these teams will provide proactive plans to address unscheduled maintenace and repair activities, for example: inserting preventative maintenance measures into the maintenance inspection schedule where possible as part of the LCM strategy.

WCO&M principles will lead our effort to reduce the effects of repairs and/or unscheduled maintenance activities with focus on the following areas and driving continuous improvement of the repair process. We will improve unscheduled maintenance of equipment over the term of the new contract by 46% forecasting a shift from the current level of 75% to 29% for unscheduled maintenance activities.



Using WCO&M repeat failure reduction techniques, MBCR has already improved HVAC reliability to 99.97%.

Reducing Unscheduled Maintenance

Our maintenance strategy to reduce unscheduled maintenance will focus on several evaluation criteria

that will ultimately reduce unscheduled maintenance activities and provide higher availability of equipment ready for use as opposed to waiting repair. Our Failure Review Board process (Section 4.A.8), Reliability Engineers and Continuous Improvement team will work together evaluating the correct approach to take.

The correct approach will be constantly evaluated through our Failure Review Board process (Section 4.A.8) along with our Reliability Engineers and Continuous Improvement teams working together to find solutions. Such approaches include: (a) changing the maintenance frequency; (b) LCM changes based on condition; (c) using higher quality parts; and (d) modification or replacing parts before failure.

Examples of our effort to reduce unscheduled maintenance activities are:

- Eliminate failure modes through an evolving maintenance and reliability management process – Failure Review Board, Reliability Engineers and Continuous Improvement work together to eliminate failure modes and provide best solution to improve reliability.
- Provide a mechanism within LCM —in cases where a failure mode cannot be eliminated— change part before failure, replace with higher quality part or possible modification.
- Reduce unscheduled maintenance by proactively monitoring vehicle, fleet and system performance with real-time data and trend analysis - Maintenance Operations Control Center (Section 4.A.1) and Failure Review Board process identifies problems early.

Defect Management

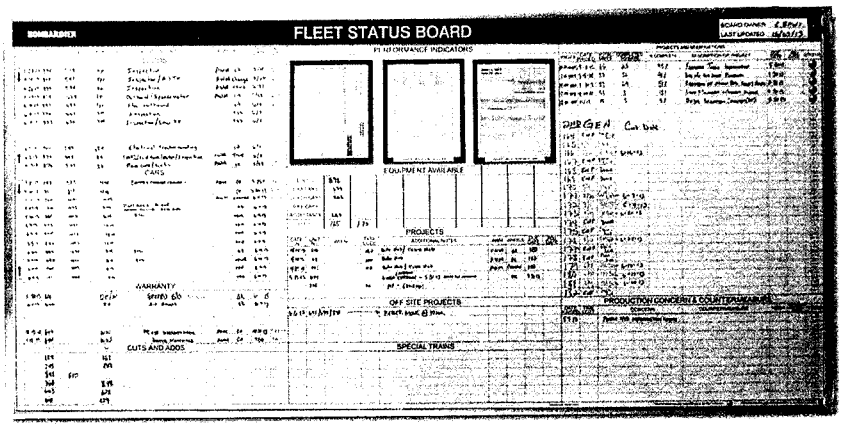
Our approach to defect management is to mitigate the defect and prevent recurrence. Changing the maintenance frequency, LCM changes based upon conditions, using higher quality parts, and modification or replacement prior to failure, will be the primary focus of our Reliability and Continuous Improvement Teams.

We will implement standard repair documentation to ensure quick and effective repairs are carried out for key system failures across the various vehicle types. The documentation will also act as a quality confirmation tool and a training aid for less-experienced personnel.

Employees will know where each unit is located, which manpower and job classification has been allocated, what work is outstanding, how long the unit has been shopped for and when the unit is expected to be released.

When a locomotive or coach with one or more defects arrives:

- Defect(s), clearance plan and expectations will be visible to everyone on the Fleet Status Board shown here
- Employees will know where each unit is located, which manpower and job classification has been allocated, what work is outstanding, how long the unit has been shopped and when the unit is forecast for release
- Supervisors will be able to monitor the work process by employee and by shift



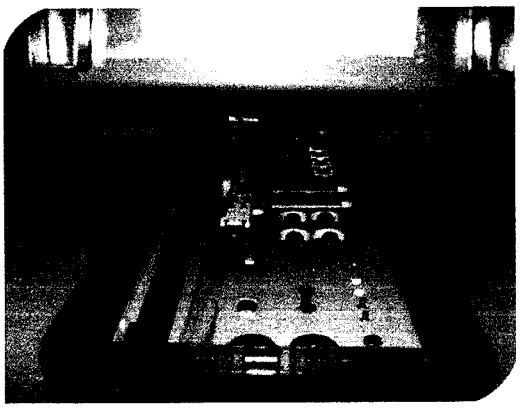
Avoiding Repeat Failures

Up to 20% of unscheduled maintenance stems from failure to correctly fix problems when they first occur. MBCR sees this fact as an enormous opportunity for WCO&M to produce substantial efficiencies. The WCO&M program has reduced repeat failures at multiple sites by more than 85% by employing:

- Lean maintenance techniques
- Standardized work practices
- Waste elimination
- Strict governance
- Cross-functional reviews
- Engaged technical staff
- Up-to-date visualization boards

Materials

A critical element of performing maintenance work is having the right quality materials available when needed. Through the use of an enhanced Trapeze EAM system (detailed in section 4.A.8), the Fleet Management team will work with Materials Management to schedule and verify required material is in stock. The Trapeze EAM maintenance scheduling system will link to Materials Management to reserve parts for scheduled maintenance activities and provide re-ordering warnings. In this way, when equipment arrives for repairs, material is ready and there is no wait time.



A typical kit of materials and tools for a specific repair.

Our kitting and line-side delivery of materials will:

- Allow the technician to start work immediately
- Eliminate downtime going to and from stores
- Eliminate time waiting at stores

Our experience shows that this will provide an immediate 20% improvement in efficiency by saving hours locating and gathering parts.

Another advantage of our process is that fleet availability and reliability will improve and material and labor costs will be reduced:

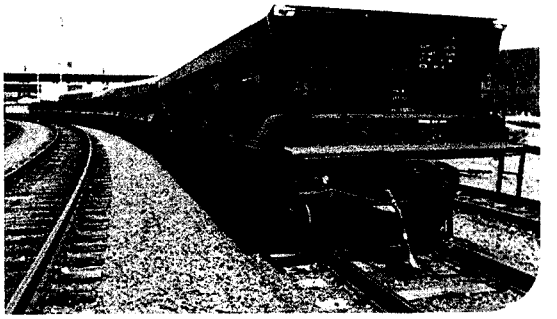
- Preventative Maintenance: We will adjust replacement cycles based on actual wear experience, improving availability and maintenance efficiency.
- Planned Maintenance: The system will order kit components using historical lead-times. Materials Management will receive, kit, and deliver all required components trackside in one package. This eliminates the issue of multiple deliveries and incomplete kits. Maintenance activity times will be measured and factored in to ensure maximum effectiveness and equipment availability.
- Overall Benefit: Kitting leads to significant increases in labor efficiencies.

Our comprehensive inspection, maintenance and repair plan using WCO&M principles will begin at NTP and be fully implemented within three years. All staff will be trained as the different phases of the plan are implemented. All described activities will be diligently managed to make sure the process is properly executed down to a shift-by-shift basis.

Many benefits of our plan will be realized immediately, such as performing the identified coach and locomotive inspections on the South Side. Once the full implementation of this proactive management process is completed, MBCR's Mechanical function will be at the forefront of the Commuter Rail industry.

4.A.3 Non-Revenue Rail Vehicle Maintenance Operation and Repair

The non-revenue rail vehicles exist to support our Engineering Department's planned and unplanned activities. MBCR will designate a dedicated Manager and personnel who are knowledgeable in freight equipment and the Association of American Railroad (AAR) rules to perform maintenance and repairs on the non-revenue cars. Maintenance and repairs on the switcher locomotives will be performed to the same standards as the revenue locomotive fleet by Diesel Shop personnel. Work on all non-revenue equipment will be tightly controlled so we can focus our primary resources on our core business of maintaining the revenue service equipment.



MBCR will dedicate staff for the maintenance and repair of the non-revenue vehicle fleet.

The use of a dedicated staff will ensure that work is performed by qualified technicians, proper materials are used, and maintenance and repair functions are performed in a timely manner. This will allow for improved availability and reliability of the non-revenue equipment for its intended use and will assure that it meets all regulatory requirements. For traceability and transparency, MBCR will provide an inspection and LCM plan using a cost-effective approach that takes the age of the equipment—typically 30+ years—into account. We will conduct comprehensive internal audits of the workmanship performed to ensure it conforms to industry quality standards.

MBCR will schedule maintenance and repairs when equipment demand is at its lowest to maximize the availability of the non-revenue fleet, especially during peak construction periods. Trapeze EAM will support MBTA-required recordkeeping, scheduling and reporting. Non-revenue rail equipment will be registered in the Umler Equipment Management Information System to allow for movement over foreign railroads.

We will work to rationalize the size of the non-revenue fleet, identifying possibilities for reductions and establishing an economic limit of repair. This will provide additional cost savings to MBTA through reduced maintenance costs, and possible revenue from unused equipment sales.

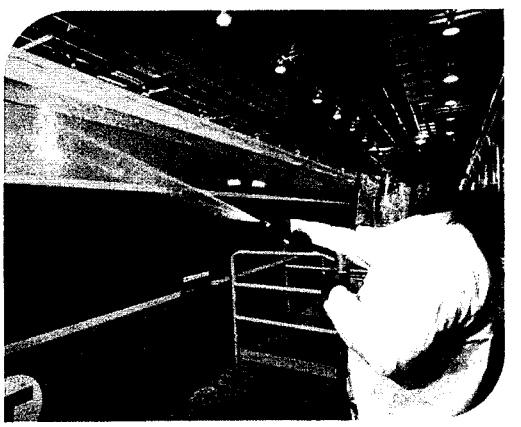
All non-revenue equipment will be inspected according to regulatory requirements before being dispatched into service. Snow-clearing equipment will be readied in the fall for winter operation.

4.A.4 Daily Cleaning, Inspection, Fueling, Servicing and Light Repairs

We are committed to making the MBTA's Commuter Rail fleet as safe and clean as possible. We are eager to work with MBTA to find new ways of optimizing train service, inspection and cleanliness requirements. MBCR will take the necessary steps so RFP specifications for cleaning requirements, inspections and repair are always satisfied.

We have already implemented hand washing vehicle exteriors annually to improve overall appearance.

We will also perform daily inspection, servicing, fueling, cleaning and any needed light repairs according to FRA Regulations and MBTA requirements as specified in the RFP. All inspections, repairs and cleanings will be recorded in the Trapeze EAM system.



The cleaning program will undergo standardization and work balancing to maximize efficiency and output quality.

Daily Cleaning of Revenue Equipment

MBCR has developed a progressive cleaning approach that allows us to efficiently provide all classes of cleaning. Our method takes advantage of layover time during night hours and weekends at all layover points so that equipment availability is not affected. Our approach maximizes equipment cleanliness on a day-to-day basis. As a function of WCO&M we will develop Work Element Sheets for cleaning ensuring all tasks are completed efficiently and meet the quality standards.

Our approach will complete the Class A interior cleans every 30 days and leverages the concept that an interior Class A coach cleaning includes only five additional tasks over and above an interior Class B coach cleaning. Therefore, our new set of standards is developed to maintain the requirements at the lowest cost possible by distributing those additional five tasks in conjunction with the Class B coach cleaning, covering the entire fleet over a 30-day period. The five additional tasks between Class A and Class B are:

- Hand wash interior panels
- Hand wash seat frames
- Hand wash stanchions and partitions
- Hand wash all trash receptacles
- Hand wash all light lenses (covers)

MBCR will develop a schedule using Trapeze EAM that makes sure each coach car is scheduled and receives a Class A interior cleaning every 30 days. Each layover point will receive scheduled Class A cleanings for that day and will record completeness in the Trapeze EAM system. This will allow staff to identify which cars require the Class A cleaning at their location for that particular day.

Our goal is to provide MBTA and its customers quality, clean coaches on a daily basis. When considering the tasks difference between Class C and Class B cleanings, MBCR has concluded we can perform the interior Class B cleaning daily (instead of every three days) within the available time and with no increase in manpower. We are not eliminating the Class C daily requirement; we will exceed it daily to provide the highest level of cleanliness to the MBTA and its customers. During the day when trains return to facilities between the morning and evening rush hours, they will have paper pickups and necessary wipe downs for any spills from the morning service cleaned.

MBCR's Zone Plan and Train Consist Optimization (see Transportation Section 6.A.1) initiatives will provide an obvious benefit as the same equipment will be planned for return to each site daily. The Zone Plan was developed in coordination with the Transportation Department and is designed to dedicate equipment to the same routes every day. This provides the benefit to employees of ownership and routine, and also gives workers the opportunity to develop an in-depth knowledge of "their" equipment.

All train sets will be cycled in and out of CRMF and S&I Southampton for exterior washing. Exterior Class A and B cleaning requirements will be addressed at the time of the exterior wash. Anything needing immediate attention will be quickly addressed. One of the few exceptions to this rule is major graffiti because of the more specialized cleaning required. If the graffiti is deemed offensive as decided by MBTA, the affected equipment will be removed from service.

Locomotives will remain as a daily Class C cleaning. Class A (every 368 days) and B (every 92 days) cleaning will be performed during scheduled inspections for each respective locomotive.

Quality checks will be performed to audit the level of cleanliness of the MBTA fleet. MBCR will implement an audit process ensuring the fleet is audited for the standard we expect. Our process will ensure audits are performed on vehicles from all locations. We will also track on-time completion as a KPI for compliance ensuring our cleaning plan remains on schedule.

This approach to cleaning reflects our focus on continuous improvement and our intention of exceeding MBTA's basic requirements. Our approach provides MBTA and its customers a new standard to appreciate and enjoy.

Daily Maintenance Interval, Inspection and Service – Revenue Equipment

WCO&M will improve the daily Maintenance Inspections by implementing lean principles, standard documentation and the use of work element sheets to ensure quality and reduce the time to complete inspections.

The daily Maintenance Interval (MI) will be performed on each train consist at the originating facility prior to being dispatched into service for its initial trip. Current facilities include eleven active layovers, the Commuter Rail Maintenance Facility (CRMF) and Southampton Street S&I (SHS S&I). The daily MI will define the servicing and inspection tasks to be followed to meet safety, availability and reliability requirements. It will also include all FRA required inspections and tests in accordance with 49 CFR 229 and 238, as well as MBTA required inspections, maintenance and cleaning standards.

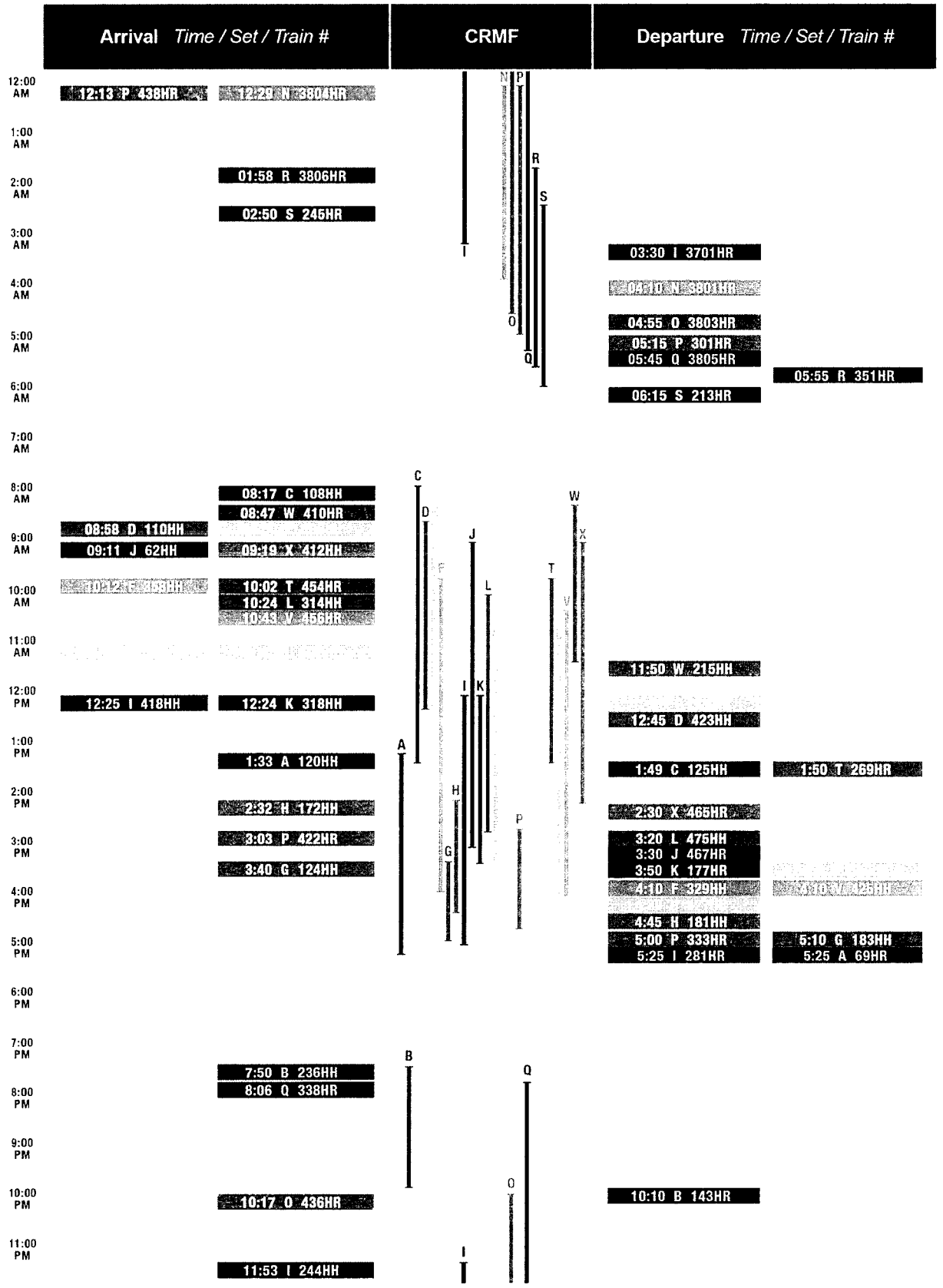
To maintain equipment availability and the functionality of on-board systems and passenger amenities, the repair of defects will be an integral part of the inspection process.

The inspections and tests will be performed by trained, qualified maintenance personnel (QMP). Additional servicing, maintenance, inspection and light repairs will be carried out daily at the CRMF, SHS S&I and Readville facilities and will be scheduled based on the equipment cycle in effect at that time. To maintain equipment availability and the functionality of on-board systems and passenger amenities, the repair of defects will be an integral part of the inspection process. The daily MI forms will require the signature of the responsible employee and will be recorded in the Trapeze EAM electronic recordkeeping system.

To optimize the daily maintenance, our Transportation Department has developed a Terminal Service clock that analyzes each train at each location to determine the optimum service period by establishing consistent arrival and departure times. An example of the Terminal Service Clock follows. It provides planning capabilities for daily maintenance allowing us to have staff available at the right time at the right place. This mechanism provides effective utilization of staff for servicing and with established facility and arrival times allows monitoring to ensure we are on schedule. An additional benefit is we will be able to identify any potential issues relative to schedule times and have time to react appropriately to maintain on time performance of the revenue service.

With a staff being placed for balanced coverage between arrivals and departures, MBCR will be in a position to integrate our Transportation and Mechanical teams. On arrivals, Mechanical staff can meet the Transportation crew to discuss any equipment issues and, if necessary, ask additional questions that may assist with the corrective solution.

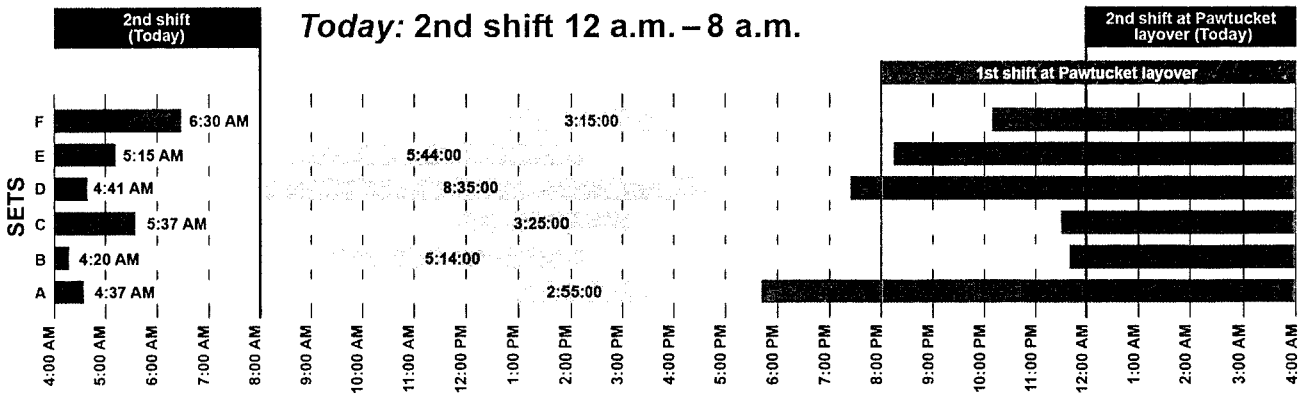
Terminal Service Clock Example CRMF



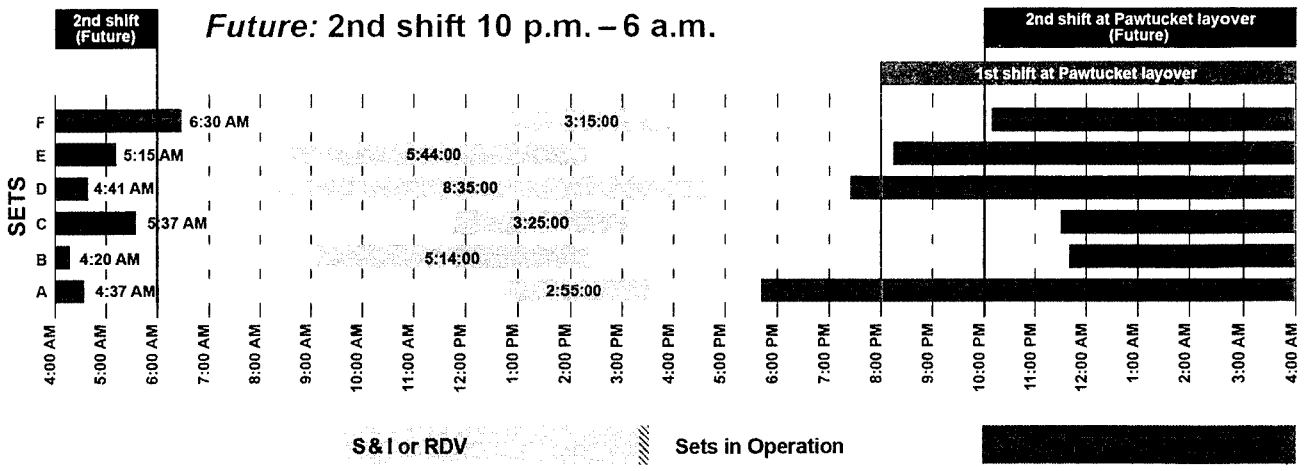
Maintenance Scheduling and Shift Reallocation

Each maintenance facility (CRMF, Readville, S&I) and the 11 layover facilities throughout the railroad currently have unique schedules for inspection, maintenance and cleaning of specific train sets at various times of day and overnight. These schedules show designated arrival times, departure times and expected duration of servicing time for each train set throughout a 24-hour cycle.

Each facility also has maintenance crews that are assigned to work eight-hour shifts, with overtime accrued for work in excess of the scheduled shift. Following is an example of Pawtucket Layover facility showing trains and their servicing time, as well as the first and second maintenance shift schedules. All of these trains arrive at the facility in the evening after completing PM peak service and leave the facility the following morning to get into position for their first scheduled run.



MBCR has analyzed the activity at each of the maintenance and layover facilities and proposes to adjust the shift schedules to synchronize with trains' arrival and departure times. In the example below, we have concluded that movement of the second shift two hours earlier from 12 - 8 a.m. to 10 p.m. - 6 a.m. would increase productivity during the 10 - 12 p.m. rush hour while maintaining adequate coverage of the 6 - 8 a.m. period when many of the trains have left the facility.



MBCR will adjust the second shift schedule at all maintenance and layover facilities, and selectively adjust shifts during daytime shifts (e.g from 8 a.m. – 4 p.m. to 9 a.m. – 5 p.m.) as needed to meet maintenance demand and line crews up for actual arrive and departure of trains between peak periods. This provides the following:

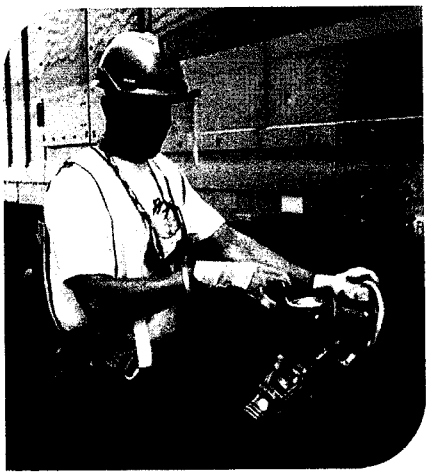
› More efficient workforce utilization – Less accrual of overtime costs to meet maintenance rush; less idle time; improved ability to get trains back into service for AM or PM start up

- Meets Mechanical requirement for equipment availability and helps meet consist compliance requirements

Train consist optimization will help the Mechanical Department reduce bottlenecks, improve maintenance throughput, and plan for more efficient staffing and service when trains arrive at CRMF and Southampton. For example, if a train set arrives for service, and all car type classifications are known (make and model), mechanical personnel can be prepared with pre-determined parts and technician skill sets. Transportation and Mechanical managers will create optimized schedules for train servicing to ensure our goals of minimizing congestion at facilities and returning equipment to revenue service as quickly and efficiently as possible. This will be accomplished through modeling scenarios that incorporate arrival and maintenance time at each facility, including the number of tracks available and the number of trains that can be on each track simultaneously. The end result of our combined planning and Daily Maintenance Inspections will be to provide a consistently safe and reliable service to MBTA and its customers.

Fueling

Currently MBCR uses a combination of fueling at the CRMF (four fuel stanchions) and Southampton S&I (three fuel stanchions) and the use of fuel trucks at outlying points when necessary. A significant portion of this contract is with East Coast Petroleum, a DBE supplier.



For North Side equipment, MBCR will purchase a mobile fueling truck to fuel trains in the layover yard at CRMF.

For North Side equipment, MBCR will purchase a mobile fueling truck to fuel trains in the layover yard at CRMF. This will enhance our flexibility of locomotive fueling and relieve congestion as locomotives can be fueled in place without having to be moved into the fuel stanchions located on the S&I tracks. This initiative will reduce the amount of moves that are needed, allow improved efficiency of workforce as less Blue Signal interruptions will be experienced and allow required fueling of the fleet to avoid fueling requirements at outlying points.

MBTA requirements will govern fuel delivery to CRMF, Readville and South Side S&I facilities. Fueling of locomotives by fuel truck will be by exception-only and reported to MBTA within 24 hours. Any locomotives requiring fuel will be fueled during the mid-day service and inspection period—and during the overnight layover period if required—so as to avoid any service delays or interruptions.

Storage tank fuel will be tested regularly for product compliance and contamination. MBTA will be notified by email or telephone if:

- Any locomotive runs out of fuel
- Any fuel tank is at less than 20% of capacity
- Any fuel contamination occurs

MBCR's Inventory Maintenance Plan will ensure sufficient levels of fuel at all storage locations. Particular focus will be on maintaining required levels during inclement weather and holiday weekends.

Light Repairs of Revenue Equipment

Light repairs to train consists will be performed during the mid-day service inspection period and overnight layover. When repairs cannot be made without impacting service, equipment will be replaced and defective equipment will be moved to the nearest facility to be repaired and returned to service.

Light repairs will be tracked in the Trapeze EAM system through work orders. Light repairs sometimes cannot be completed right on the spot for different reasons, such as train departure time. If this situation arises, the repairs that are not critical to safety or the reliability of the equipment will be recorded into Trapeze EAM as an open work order allowing the next maintenance inspection location to be alerted and perform the necessary repair.

This system will provide full capture and traceability of light repairs and ensures they are completed in a timely manner and are not left unattended.

4.A.5 Periodic Component Overhauls and Minor Upgrades

As previously discussed in our LCM approach, MBCR will transition the Mechanical Department towards RCM, which, unlike parts-centered maintenance, focuses on component reliability that affects equipment reliability. RCM will link back to the standard sequenced maintenance inspections to enable minor upgrades to be reviewed and incorporated into the maintenance scheduling at appropriate points.

RCM increases reliability through replacement before an established failure and controls costs incurred by mechanical failures. Under RCM:

- Periodic component overhauls will be included in the MBCR Fleet Maintenance Plan. For example, truck component overhauls for coaches can be included as part of the maintenance program as they are rebuilt and ready to go from the Truck Shop. This reduces any wait time for truck rebuild and quickly returns the coach to service, providing optimum availability
- Component overhauls will continue to be outsourced where required by MBTA
- MBCR will develop and provide MBTA-approved specifications, vendor criteria and recommendations and testing criteria
- Determined outsourced component overhauls will continue to be executed by MBCR. Vendors will be required to submit component overhaul, inspection, test and production plans for approval. Once a vendor is selected and a plan is approved, standard arrangements and processes regarding component transport, timelines, inspection procedures and other setup details will be determined and agreed upon

Any MBTA-approved upgrade or modification to improve a part's reliability or usability will be engineered into the component's overhaul specifications and documented in the applicable drawings and schematics. Our responsibilities are as follows:

- **Fleet Management, Materials Management Production Management**- Responsible for coordinating component overhauls to ensure resource availability. At the appropriate maintenance interval, Mechanical Services personnel will remove components that need to be overhauled, and provide them to MBCR Materials Management with the corresponding paperwork and Trapeze EAM entries. A previously overhauled, compliant component will then be installed as a replacement.
- **Component Overhaul Completion** - Vendors will be required to test their parts prior to shipment. Upon receipt of the overhauled component, an incoming quality assurance and acceptance inspection will be performed and recorded in Trapeze EAM before installation.

MBCR will transition the Mechanical Department towards RCM, which, unlike parts-centered maintenance, focuses on component reliability that affects equipment reliability.

- **Minor Upgrade Work** - At the MBTA's request or upon approval, minor upgrade work will be performed on a project basis. MBCR's Project Manager will develop a production plan with estimated timeframes and present it to the MBTA for approval. Such work will generally be performed on the CRMF's PM 2 track.
- **Vehicle Overhaul/Retirement** - Based on our knowledge of the fleet and input from MBTA regarding future vehicle overhaul plans, MBCR will propose an overhaul and retirement schedule (see Supplemental Appendix 2 - Mechanical) to the MBTA. This schedule factors in the equipment requirement for train service and any need for a vehicle to be sent off site. Supported by WCO&M methodology, MBCR will be well positioned to offer the optimum fleet level, providing savings to MBTA through the avoided capital and operational costs of excess equipment.

4.A.6 Enforcing Third-Party Warranties

Through the Reliability and Failure Review Process incorporated in WCO&M, MBCR will support MBTA to identify all issues related to third-party warranties, helping MBTA to realize full cost recovery. MBCR will ensure that third-party contractors comply with all terms and conditions of the manufacturer's maintenance and service schedule.

With regards to new equipment expected to arrive in coming years, MBCR has created the position of Director of Warranty Compliance to manage third party warranty issues for the MBTA. The Director is responsible for interfacing with vendors, ensuring that all warranty issues are managed, recorded and reported to the MBTA. This new position ensures that all MBTA warranty claims are processed for full cost recovery.

MBCR will support MBTA to identify all issues related to third-party warranties, helping MBTA to realize full cost recovery.

All warranty issues relating to design, workmanship or material deficiencies are identified and reviewed with the MBTA and, if requested, a representative of the equipment contractor. The Director of Warranty Compliance responsibilities are to:

- Work with both parties to establish costs and correct deficiencies
- Coordinate resources so disruptions to service are avoided
- Be solely responsible for managing and ensuring enforcement of third-party warranties
- Keep MBTA informed on all issues

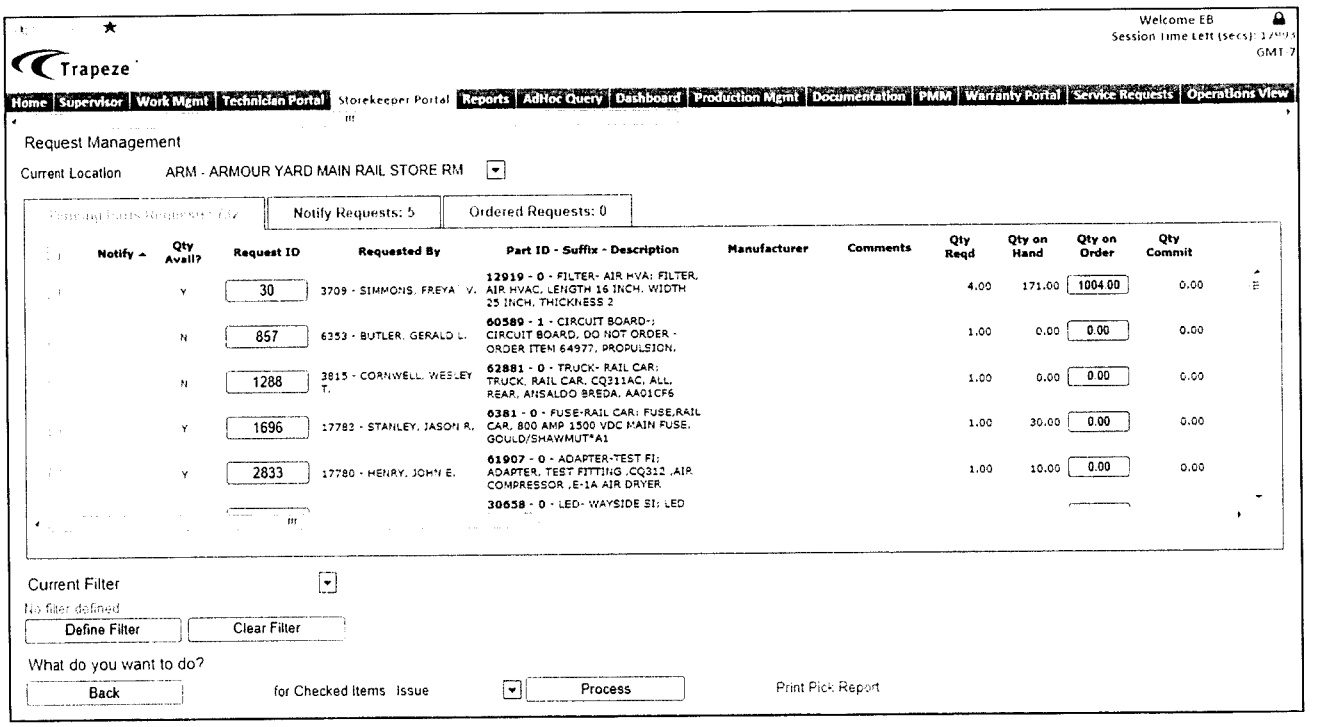
Under the warranty process:

- All warranty periods will be entered and identified in the Trapeze EAM System
- Defective components covered by a third-party warranty will be removed and tagged with appropriate information prior to turnover to the MBTA for failure analysis by the equipment supplier
- Spare parts provided by the equipment supplier to support the administration of third-party warranties will be managed and controlled by Materials Management, segregated from existing inventory, and only issued with the prior approval of the MBTA
- All warranty work such as individual repairs, fleet defects and field modifications managed by third-party contractors will be recorded and tracked in Trapeze EAM to assist the MBTA in the advancement of warranty claims

4.A.7 Comprehensive Inventory Control System

Inventory will be managed through the enhanced version of the Storekeeper Portal in Trapeze EAM, which will be directly linked to the Great Plains Software system for accounting purposes. The enhanced version of the Storekeeper Portal will be fully functional and managed by trained staff at commencement of the new agreement. Trapeze EAM will offer MBTA full transparency by providing all required material information

MBCR will work with a fully comprehensive system that uses planning and demand to trigger ordering. This system ensures that proper material levels—identified by the established and MBTA-agreed min/max points—are respected, and that recording issuance and receipt of materials is completed. Trapeze EAM will generate work orders with work order numbers for maintenance and repair of equipment.



The system will be able to reserve materials as well as associate the materials issued from the stores to the work order number, providing complete traceability for parts and equipment. With kitted materials, accuracy will be improved, because when the kit is assigned, each associated part will be removed from the inventory level. This differs from the current system that issues each part independently. To verify the accuracy of our inventory control, we will conduct monthly cycle counts and annual year-end inventory counts.

MBCR will develop an Inventory Maintenance Plan to ensure that all inventory control requirements of the RFP are met or exceeded. The Inventory Maintenance Plan will:

- Provide a process for a monthly review meeting which will include measuring the effectiveness of the plan
- Establish Min/Max levels for each item of support inventory, eliminating out-of-stock situations and ensuring equipment is available for service
- Maintain actual levels of support inventory that meet or exceed MBTA approved minimums
- Manage stock levels at outlying points to support inspection and repair and avoid train delays
- Forecast long lead time items using a three-year look-ahead
- Implement planned materials and inventory management via the Fleet Management team
- Incorporate a Fuel Plan to ensure minimum acceptable levels at all locations, respect testing procedures, and manage bulk delivery schedules and winter-blend fuel

MBCR will work with a fully comprehensive system that uses planning and demand to trigger ordering. This system ensures that proper material levels—identified by the established and MBTA-agreed min/max points—are respected, and that recording issuance and receipt of materials is completed.

- Ensure the plan provides adequate stocking levels of seasonal materials and fluids
- Monitor and track spare component pools and reclaim pools
- Manage and take corrective action of the one official "None on Hand List"
- Generate a Work in Progress Report

The Fleet Management team will provide an additional layer of monitoring, working with Materials Management to provide advance notice of maintenance activities. WCO&M incorporates the provision of materials to perform all scheduled maintenance activities on time, thereby increasing equipment availability and reliability.

4.A.8 Information and Materials Management, Performance Analysis and Reporting

Over the period of our contract with MBTA, we have developed a strong proficiency with the Trapeze EAM system as the information management tool for maintenance of the MBTA fleet. This means we are uniquely positioned to take full advantage of the enhancements being brought to the system in the next contract period. It also means we will be able to make use of the enhancements very quickly, since our deep knowledge of Trapeze EAM means we will require very little if any ramp up period before we are fully versed with the new version's functionality. A detailed plan to implement Trapeze EAM for the Mechanical Department is in Supplemental Appendix 6 – Information Technology.

Our staff will be trained on utilization of the enhanced Trapeze EAM system, which will contain quality measures to ensure each work order is fully detailed and accurately recorded in a timely manner. The Issue Tracking Portal will also tie in to the Mechanical Helpdesk to further track complaints related to Mechanical. Further details are in the Information Technology section 9.A.5.

Accurate, real-time information is the foundation of LCM and WCO&M. MBCR is working with Trapeze to make sure the enhanced version of Trapeze EAM will be fully operational at contract commencement. Trapeze EAM was built on a modular architecture, which means that portals can be integrated to support specific needs. MBCR has determined the following schedule for portal integration:

- Supervisor Portal – 4 months post-NTP
- Technician Portal – 4 months post-NTP
- Documoto Illustrated Parts Catalog – contract commencement
- Capital Planning and State of Good Repair Portal – contract commencement
- Storekeeper Portal – contract commencement

Trapeze EAM Functionality

Trapeze EAM is a highly sophisticated information management tool that will provide all the data needed to support WCO&M. Extensive employee training will ensure that Trapeze EAM is used to its full potential. This powerful system, combined with MBCR data analysis, will support our shift to RCM, and be used to effectively manage LCM, Materials Management and Warranties.

End users and especially those with analysis and reporting needs will use the system to make better decisions. Trapeze EAM Power Users will be trained to use the system to support the continuous improvement changes realized from WCO&M. Following is a list of the full functionality Trapeze EAM will offer:

- **Asset Management** – Fleet Equipment/Components Safety Criticality Rating, Condition Rating, License/Permitting, Acquisition/Disposal, Status/Utilization, Unit History (Repair, Cost, Assignment)
- **State of Good Repair** - Asset condition assessment, SOGR reporting

- **Capital Planning (used for LCM scheduling)** - Capital Project Prioritization, Decision Support (Decision Lens)
- **Maintenance Operations** - Work Orders (PM/Repair), Materials Planning, Labor/Timekeeping, Commercial Repairs, Job Standards, Recall/Campaigns, Warranty Claims Management
- **Parts Inventory Management** - Parts Master Catalog, Location Inventory Control, Internal Transfers, Physical Inventory/Cycle Counts. Rebuild/Fabrication Management
- **Procurement** -Automated Replenishment, Requisitions, POs, RFPs, Bids, Awards, Approvals & Notifications

Materials Management

As a core element of WCO&M (Supplier and Materials Management), Materials Management will become fully integrated with the maintenance team. The benefit of this approach is total knowledge of what will be required to ensure quality materials are available when needed. Materials Management will:

- Perform real-time management of emerging material requirements and material reliability/availability/quality issues
- Manage suppliers to ensure above issues are effectively addressed
- Develop ongoing supplier relationships to ensure long-term operational/quality performance
- Align long-term material planning to the fleet planning requirements and changes
- Manage obsolescence including long-term risk planning
- Manage usage to understand daily and long-term consumption against plan, and provide feedback to necessary functions where discrepancies are highlighted
- Minimize capital investment and ensure operational performance of the fleet through effective warehousing and float management

MBCR's experience managing materials on behalf of MBTA gives us an advantage no other competitor can offer. Over the course of our contract we have established solid vendor lists and agreements—an accomplishment that is especially noteworthy given MBTA's range of fleet types. As equipment has aged, MBCR has taken on the time-intensive task of sourcing and selecting vendors who can either supply or manufacture parts for discontinued OEM stock.

Our exclusive subcontract with MPI will provide us with a specialist who will manage the logistics of material required for the new MPI Locomotives scheduled and unscheduled maintenance activities. This includes kitting of maintenance material, inventory control/management and provides an additional resource to assist in warranty management.

Bombardier brings us the combined benefit of its experience maintaining MPI Locomotives and Rotem coaches, and its existing relationships with parts vendors. Bombardier also offers us the key advantage of their After Market Solutions group that can help us realize savings through volume buying and vendor agreements. Should MBTA decide to implement DMUs into the service plan, Bombardier will provide the same benefit as they will be maintaining the proposed DMUs starting in 2014. MBCR's subcontract with MPI will also give us the advantage of all locomotive materials at favorable pricing.

Bombardier is the single largest maintainer of MPI Locomotives in North America and the only company in the world with experience maintaining Rotem bi-level coaches. As a result, MBCR has direct access to established relationships with key vendors and is uniquely positioned to support MBTA's new fleets.

MBCR will administer its Material Management Information System Plan (MMISP) using the enhanced Trapeze EAM System with new and never-before-available features. The MMISP will include the ability to:

- Maintain an inventory of all existing materials and parts
- Optimize stocking of materials and parts using planning and demand factors
- Calculate the costs of materials and parts used for work orders
- Control the ordering of materials and parts
- Track specific materials, including materials for Supplemental Work Projects and serialized components. MMISP will also record budgets and project costs for those materials.

Our Materials Management Plan (MMP) will include procedures to guarantee the quality of our materials. We will ensure that Support Inventory Material and Services will be leveraged to achieve or exceed performance requirements. These requirements also apply to the maintenance, repair and replacement of assets. All Support Inventory Materials used will be first-quality products that conform to OEM specifications. Our Quality Assurance Plan (QAP) will ensure that materials meet or exceed specified requirements. QAP will also make sure we do not procure or use materials that will negatively impact safety, reliability or regulatory compliance.

Our MMP will also implement a Materials Management process that will:

- Optimize efficiency and inventory value through Fleet Management planning allowing forecasting of material quantities to ensure that inventory is on-site when needed, and avoiding out of service time due to material shortages
- Include a critical material process to ensure continuous availability during seasonal demands and account for fluctuating lead times
- Include kitting and line-side delivery of materials for locomotive and coach inspections, LCM replacement, minor upgrades and overhaul work

From the date of acquisition through the expiration of any applicable warrantees, MBCR will ensure warranty compliance for new vehicles by only purchasing OEM parts and materials for maintenance and repair of the MPI HSP46 Locomotive and the Rotem CTC-1800 and BTC-800 Bi-Level Coaches (new fleet vehicles).

MBCR will arrange long-term—no less than annual—commitments from OEMs for parts and material for new fleet vehicles to be in effect by the commencement date. Our subcontract with MPI will ensure this commitment for the new locomotives. We will also develop parts lists for new fleet vehicles in compliance with guidelines established by the MBTA Vehicle Engineering Group or an MBTA-approved alternate. These lists shall be submitted for MBTA review and approval.

We will develop lists of unique and critical parts for new fleet vehicles and take steps to have sufficient safety stock on hand for unanticipated requirements. This will be done under the guidelines established by the MBTA Vehicle Engineering Group, subject to MBTA approval. These lists shall be submitted for MBTA review and approval (ODRL 3.4-06). MBCR will comply with all other requirements regarding new vehicle support inventory as specified in the RFP.

MBCR will also ensure the following measures are compliant with Schedule 3.4 of the RFP:

- Storage and Handling – Security and protection from elements
- Support Inventory Valuation – Inventory value will be kept above the 90% value at Commencement Date
- Physical Inventory and Audits – An audit of inventory will be completed by June 30 annually, with cycle counts conducted monthly for auditing of inventory handling. Adjustments to inventory will be made when errors are found.
- Obsolete, Surplus and Scrap Inventory – MBCR will implement an RFP compliant plan

Manual recording of parts issuance is complicated and time-consuming. MBCR will ensure accurate reporting by implementing a bar coding system for inventory issuance and receipt of materials. This system will link with Trapeze EAM and create efficiencies for stores and mechanical staff. MBTA will also enjoy transparent, real-time inventory reporting. We will also integrate vending machines in various workshop areas so that technicians will be able to avoid going to stores for such items as PPE, gloves and low cost consumables. The vending machines we install will have an internet-based system that will provide reports showing when items are removed and by whom as technicians need to input an ID number. This will allow us to ensure quality control of parts removal and make sure materials are replenished in a timely manner.

A bar code system and parts vending machines will provide transparent, real-time inventory reporting.

The stores department at CRMF will be restructured to support 24-hour coverage of the mechanical staff. The Materials Group will also see the creation of Subject Matter Experts (SMEs): each person responsible for the acquisition of materials will have a specific, assigned commodity group. This will provide MBTA with a robust and compliant Materials Management system.

Performance Analysis and Reporting

MBCR is judged on the quality of service provided every day and we are committed to delivering the best experience possible to riders. We take a proactive approach by collecting field data, conducting daily meetings, observations and tests, and by gathering customer feedback. Interpreting all of this information allows us to identify, track and resolve issues to meet on-time performance, safety and customer service goals.

The Mechanical Department will be part of the new Service Improvement Leadership Team (SILT) with other department heads. This team will focus on finding the root cause of service issues and expeditiously and effectively implement solutions as part of the Customer Service Improvement Plan (CSIP). Further details are in the Customer Service Section 7.A.4.

Every service day, two operational calls are held, one to review morning peak service and the other to review our readiness for the afternoon rush. All of our operating departments participate in these calls along with Customer Service and members of the MBTA Management team. These daily calls trigger either immediate fixes or longer-term process improvement initiatives to mitigate weaknesses, vulnerabilities or any operational issues that will impact Commuter Rail safety and OTP of trains.

WCO&M requires service performance monitoring to be a critical responsibility for every manager at MBCR. Immediate attention and action is required if the daily service is not meeting expectations, or if emerging trends are identified. Our Management Organization Structure (refer to Organization Chart in section 3) and daily processes have been designed to ensure our people are informed and that we have the structure and experience to address concerns.

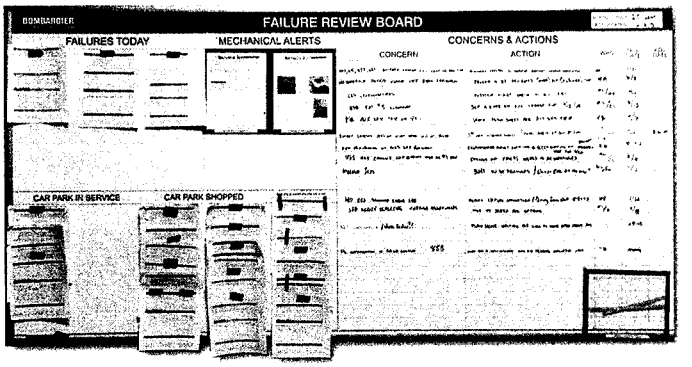
Each day begins with Start of Shift meetings complete with up to date visualization boards as a part of our people engagement plan whereby all of our teams will be informed and aware of safety, daily performance, issues and successes. All of our staff will have the opportunity to be involved in solving issues and providing input and become engaged in the business.

Daily Meetings led by the Failure Review Board (as described below) provides opportunity to address, immediate, short term and long term remedies to problems.

Failure Reduction

Before continuous improvement can be made, the problem or issue must be understood. MBCR will implement a stringent failure review process to identify problems and implement corrective actions. Failure reduction will be split into three elements:

1. Real-Time Failure Review Board (FRB)



We will conduct periodic reviews across shifts, up to three times daily and visualize the results as shown here. Cross-functional attendance will include Mechanical Management, Planning, Methods, Reliability Engineering and Materials. Each failure during a defined period will be reviewed to understand:

- Any containment action required
- Actions needed to be taken to mitigate any further risk before unit return
- Actions needed to ensure an effective root cause analysis and countermeasure

2. Short-Term Trend Analysis

In addition to the daily FRBs, we will hold extended FRBs twice weekly that focus on repeat issues and emerging trends: component failure, process failure, incident location and maintenance schedule.

The reviews will ensure a holistic view of problems. Verification and defect coding from failures will also be reviewed to ensure root-cause trend data is accurately entered into the Trapeze EAM system.

Before continuous improvement can be made, the problem or issue must be understood. MBCR will implement a stringent failure review process to identify problems and implement corrective actions.

3. Failure Reporting and Corrective Action System (FRACAS)

We will conduct an extended review each month, involving a wider team of reliability engineering, mechanical, materials, project management and continuous improvement methods personnel. Any system not performing to standard will be reviewed to the relevant component and maintenance inspection regime. The review will also analyze any impact or required enhancement to the LCM program.

Key reports from Trapeze EAM and the relevant departments pertaining to reliability performance will be reviewed and sent to MBTA as per the RFP requirements.

Measuring KPIs such as MDBF, MDBCF and MTBSF for all vehicles in revenue service and non-revenue service vehicles will continue as a means to identify the impact of mechanical issues on fleet reliability and to drive operational changes that will help improve performance. These KPIs will be reported on an individual vehicle basis for each locomotive and coach monthly. The reporting of the captured information will be performed with the monthly Maintenance Operation and Fleet Performance Report as specified in the RFP.

Building on our daily service monitoring efforts, MBCR is committed to using KPIs to set expectations and manage performance. Improvements will be directly influenced by the successful implementation of strategies and programs we have outlined in our maintenance approach. The department's KPIs are aligned with the MBTA's performance categories and will include more comprehensive KPIs in categories already tracked, plus new categories. New KPIs tracked will include but are not necessarily limited to:

- Safety – Near miss reporting, Risk assessments completed/updated, Accident/incident rates, Unsafe act or condition reporting

› Performance – Direct delay minutes per thousand miles (actual delay caused by equipment failure), impact delay minutes per thousand miles (cascade delays caused by equipment failure), vehicle out of service time average, inspections performed on time to schedule, vehicle modification status against plan, number of available seats and consist configuration to plan, in-process and completed inspection audits, train presentation (cleaning quality audits)

Please see the following table for additional KPIs with expected target for improvement.

Mechanical Department Key Performance Indicators

	Mechanical Department Indicator	Measurement	2012 Baseline	Target 2016	Accountable
	Employee Injuries/ Reportable	Number Count AFR per 200,000 hours	13 1.94	10 1.5	All Mechanical Management
	Employee Injuries/Non-Reportable	Number Count IFR per 200,000 hours	4 2.74	3 1.94	All Mechanical Management
	Rules Violation (Safety Critical)	Number of Incidents	7	0	All Mechanical Management
Service Delivery	On-Time Performance	Number Late/ Cancelled/ Annulled Trains	258/month 14/month	206/month 11/month	CMO, Superintendents, Managers
	Fleet Availability	Number of Locomotives, Cab Cars& Coaches	63 63 298	63 63 298	CMO, Superintendents, Managers
	Consist Compliance	Percentage of Compliant Trains	99.6%	100%	CMO, Superintendents, Managers
Customer Experience	Passenger Comfort and Cleanliness	MTBSF	CTC 92 Days BTC 184 Days	To be negotiated per Addendum 10	CMO, Superintendents, Managers
		Mechanical Related Customer Complaints	Average 52/month	Average 12/month	CMO, Superintendents, Managers
	Fleet Reliability	MDBF	As per tables 1.9 and 1.10 in RFP Schedule 3.3	As per tables 1.9 and 1.10 in RFP Schedule 3.3	Reliability Engineer
	Component Reliability	MDBCF	Not Available	100 % Established	Reliability Engineer

4.A.9 New Technologies and Work Practices

We intend to integrate new technologies and work practices to take MBTA to the next level of rail maintenance. New vehicle technology will give MBTA direct access to lessons learned, best practices, troubleshooting experience, approved vendors and the experience Bombardier has with the vehicles MBTA is adding to the fleet.

MBCR will introduce a number of new technologies with the new contract, including Alternating Current Field Measurement, Sentio Technology, Health Monitoring and improved Work Practices and Training.

New Fleet Technology

MBCR will partner with MPI to proficiently maintain the new HSP46 Locomotives and manage the unique material demands. This partnership includes:

- MPI HSP46 Locomotive materials supply
- Locomotive warranty management after commissioning
- Core and major component inventory management
- Technicians on-site to support and assist/troubleshoot for the MBCR team
- Access to training that is not included in the MPI/MBTA agreement

Specifically, it includes technicians on-site to support scheduled and unscheduled maintenance and overhaul cycles of major components and subsystems based on predetermined, planned life-cycle; and a materials logistics technician starting in the first year, responsible for managing the capital spares, core spare parts pool for the locomotives, ensuring required materials are available at point-of-use as determined by the maintenance schedule. The complexities of the newly designed locomotives introduce a unique list of material, which is different from MBCR's current inventory. We believe this partnership will offer the MBTA an integrated and optimal solution to deliver on maintenance goals and service expectations for the new locomotives.

Bombardier, MBCR's partner company, is the only private service provider in the world with experience in maintaining and repairing Rotem bi-level coaches. It is also the largest service provider in North America of MPI Locomotives. This allows us to pass on many benefits for the new fleet technology that simply cannot be matched by any competitor.

Bombardier has been maintaining Rotem Bi-levels at their Los Angeles (134) and Florida (14) sites for the past three years. MBCR has access to their maintenance practices, lessons learned, best practices and troubleshooting experience. This experience not only puts MBCR in a position to accelerate the learning curve for the new vehicles, but also provides an invaluable knowledge resource not available to any other competitor.

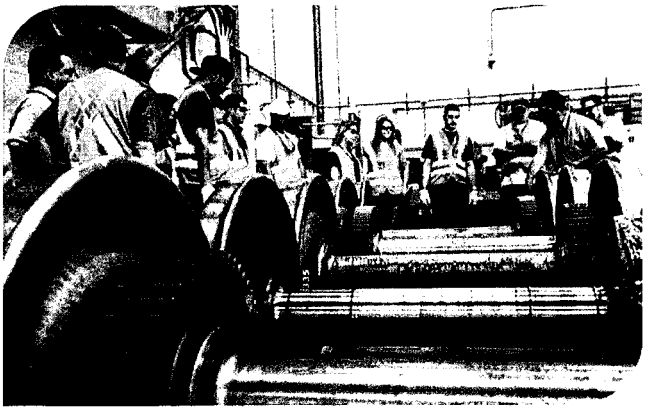
Bombardier also maintains MPI Locomotives at their Los Angeles (15) and Toronto (57) sites. At Go Transit in Toronto, Bombardier has been maintaining MPI Locomotives for the past five years with a current fleet of 57 MPI Locomotives. This is another advantage that MBCR can offer MBTA because we have access to resources with experience maintaining vehicles in a weather environment similar to Boston's.

We will establish regular group review meetings with these Bombardier sites to review performance of the Rotem vehicles and MPI Locomotives. Because Bombardier has several years of experience with the new vehicles, they will be able to give us an "advance look" at the kinds of issues we can expect to see in the first few years with the new fleet. Overall, the combined experience of MBCR, Bombardier, and our subcontractor MPI will allow us to be proactive for the maintenance of MBTA's new fleet technology.

axle bearings, relevant product training and work records completion, and an understanding of the reason why it is important to complete them correctly.

If a candidate has not met the required competence level then he/she shall be removed from undertaking any safety critical duties. They will need to be either trained or coached and then re-assessed. Specific methods will be applied for process controls. These include:

- Requiring that each technician sign for and verify that the quality of work undertaken is to the required standards before passing to the next stage of the process
- Recording all work performed to ensure root causes can be identified, and corrective actions or preventative actions can be implemented and verified as having been effective



MBCR trains mechanical employees to improve performance, and maintain system safety and asset sustainability.

- Implementing process audits to ensure that all process controls are consistently applied

Our core quality management principles are built on employee engagement, involvement and training. The training programs MBCR has created foster an environment where our mechanical employees can reach the necessary skill level to improve performance, and maintain system safety and asset sustainability. A complete list of required courses is in Supplemental Appendix 7 – Training.

MBCR will use the train-the-trainer approach for new fleet technologies purchased by the MBTA. We will select an individual who will attend the train-the-trainer program to ensure he/she has the required skills to perform effective training. Our trainer will attend all training modules provided by the OEM vendors to ensure they have complete understanding of the new technology.

We will also identify individuals within specific classifications using the train-the-trainer approach to train the teams within their classification. These individuals will also attend the train-the-trainer program. Our training approach will be supplemented by providing additional OEM training when needed for specific systems.

Our new technology training will also have Managers or specially selected individuals to be trained as Subject Matter Experts (SME) on certain systems (examples: Brakes, Doors, HVAC). These individuals will have a focused system to learn and advise our people on maintenance and/or repair. This approach provides acceleration to having system experts as opposed to the length of time it would take individuals to learn all systems before being recognized as an expert.

We will continue to provide mechanical employees with all training mandated by federal regulations or law, including regulatory, state, MBTA and FRA training and certification requirements. The Annual Training Program Plan outlines all legally required training and discretionary training (examples: Trapeze EAM training, skill enhancement, vehicle or system specific training) for each functional area. It indicates the schedule for each class, instructor name, number of seats in each class, course syllabus, competency test questions, requirements for passing the course and associated teaching materials. All training and reporting is tracked in the Learning Management System (LMS), ensuring compliance for all staff and that recertification training is completed before expiration.

4.A.10 Implementing, Operating and Maintaining FRA Approved Diesel Multiple Units (DMUs)

MBCR commissioned Parsons-Brinckerhoff - a leading consulting firm with extensive experience advising public and private clients in the rail industry on infrastructure improvements and innovations - to conduct a feasibility study that explored the introduction of new FRA-approved diesel multiple units (DMUs) into the MBTA Commuter Rail network. Working through MBCR Operations Planning, Transportation and Mechanical Departments, we have concluded that the use of DMU trains to serve MBTA Commuter Rail lines closer in proximity to South Station and North Station will be the most efficient use of this technology.

EXTERIOR VIEW IMAGE

Potential Impact on Train Operations

MBCR has developed proposed schedules for DMU service along both the Fairmount and Fitchburg Lines and is proposing to use the Fairmount DMU service as a pilot run of this initiative, prior to expanding DMU usage to the Fitchburg Line. Train operations along these two lines will see a significant change in service capacity and trip times. For example, looking at current Fairmount service and current equipment cycles, there is the potential to eliminate 608,400 conventional coach miles per year and 104,000 conventional locomotive miles, saving maintenance costs for conventional coaches and locomotives, saving the MBTA fuel and reducing emissions. Introduction of DMUs to the Fairmount Line additionally presents an opportunity to reconfigure existing train set cycles and assignment of locomotives and coaches across the Commuter Rail system.

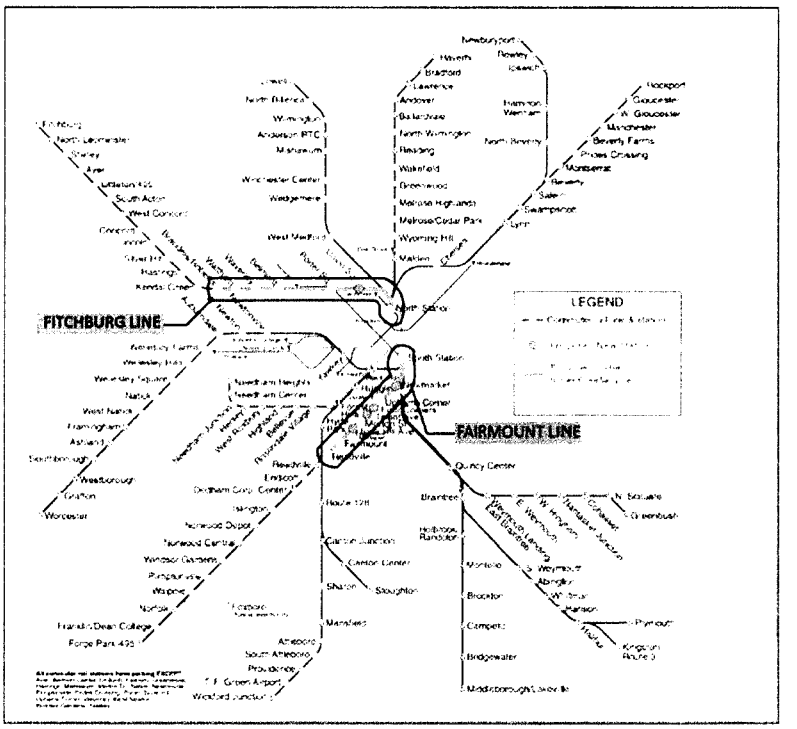
Fairmount Service

The proposed plan developed for the Fairmount Line involves a total of four DMU train sets that can be configured as either two-car units carrying up to 164 passengers or three-car units carrying up to 246 passengers. MBCR recommends the introduction of DMU train sets for the Fairmount Line with a two-car configuration based off the AM and PM peak train passenger counts from 2009-2013, which show averages of 85 - 99 passengers per train.

We propose that the DMU service will operate on 30 minute headways with the inbound service operating from Readville at 6:15 a.m. and continuing every 30 minutes throughout the day until 11:45 p.m. for a total of 36 inbound trips per day. The outbound service from South Station will begin at 5:30 a.m., operating every 30 minutes until the last departure at 11 p.m. for a total of 36 outbound trips per day.

All doors on the DMU train set will be power operated and all platforms along the Fairmount Line are high-level boarding platforms, except for Fairmount and Readville which have ADA mini-high platforms that the DMU train can use for station activity. The DMU can be configured to both high- and low-level platforms boarding with automatic steps for future expanded service beyond the Fairmount Line.

The new proposed DMU service will make stops at all existing and proposed new stations between South Station and Readville. Initially, there will be three active two-car sets to cover the daily DMU schedules with one two-car spare set positioned in the Readville facility. More frequent service with closer headways of 18 - 22 minutes can be achieved with the three active train sets (and one spare) or 12 - 13 minute headways can be achieved with four active train sets (and one spare) if future ridership proves to necessitate additional passenger capacity. End-to-end transit time can achieve an estimated 24 minute schedule with turnaround times for each train set calculated to be six minutes at Readville and six minutes at South Station. However, the draft schedules developed provide for 30 minute transit times and 15 minute station time at both Readville and South Station to provide for "clock-face" schedules, and allows ample and sufficient time for passenger movements, driver end changes, train inspections and brake testing. The roundtrip cycle time in the draft schedules are 80 minutes which can be reduced to 60 minutes using quicker transit schedules and turn times.



MBCR in conjunction with Parsons Brinckerhoff have studied the feasibility of DMU service on the highlighted route, which will provide the greatest positive impact on service levels and ridership.

Fitchburg Long Distance Express Service

After the implementation of DMUs on the Fairmount Line, and with the major infrastructure improvements under the Fitchburg Commuter Rail Line Improvement Project allowing for increased capacity and reduced travel times, there is greater opportunity for further improvements via DMU utilization. Current studied plans call for DMU service between North Station and Brandeis/Roberts with stops at Porter Square, Belmont, Waverly and Waltham. Our analysis has determined that this new proposed service is estimated to have a run time of 23 - 27 minutes. Turnaround times are expected to be 10 minutes at Brandeis/Roberts, and 15 minutes at North Station, both of which provide sufficient time for passenger loading/unloading, driver end change, train inspections and brake testing. The total round trip is estimated to run between 71 - 79 minutes.

There is also the opportunity to add an additional stop at Union Square in Somerville without interfering with the proposed Green Line extension. This would allow the many transit dependent users in Somerville access to North Station and connections for the Orange and Green Lines. The Union Square station addition could be completed at an earlier date than the proposed Green Line extension.

With DMUs providing service to the aforementioned stations, this will enable currently scheduled Fitchburg trains to operate on an express scheduling. It is estimated that the infrastructure upgrades will reduce nearly 12 minutes of travel time from an existing Fitchburg all-stop service; with DMU service added, that same Fitchburg service will reduce another six minutes of travel time with a modified express schedule, for a total travel time reduction of 18 minutes from the current schedule.

Additionally, significant benefits from local transit travel time savings can be achieved with DMU service for travel between Roberts, Waltham, Waverly and downtown Boston. Comparing average travel times from these stations to Boston by MBTA Express Bus and by proposed DMU service yields travel time savings of 16 minutes between Waltham and Boston, and approximately 38 minutes between Waverly and Boston.

There is potential for this express service to achieve 30 - 35 minute headways by utilizing three active two-car DMU train sets, and one spare two-car DMU train set. In this scenario, it would be possible for MBCR to complete 29 roundtrips between 6:30 a.m. and 11:30 p.m. Note that this is an example of a working schedule and in order to be implemented, several scheduling conflicts would need to be resolved.

MBCR recognizes that there are many other lines which would benefit from DMU service; we believe that adding DMU service on these two particular lines will enhance the investments already planned by the MBTA.

Potential Changes to Collective Bargaining Agreements with Respect to On-Board Train Operations

DMU train operations can operate as a single car carrying 82 passengers and as a two-car train set carrying 164 passengers, either of which would require an Engineer and a Conductor, and meet MBTA RFP requirements to supply one conductor per 300 passengers and would require no change to the MBCR Collective Bargaining Agreement. Configurations of DMUs into three-car train sets carrying 246 passengers also meet MBTA RFP requirements but will need potential adjustments to the MBCR Collective Bargaining Agreement, which MBCR anticipates can be achieved.

Fueling

The FRA-approved DMU reviewed by MBCR is powered with a 760 HP diesel power module with auxiliary generator employing a hydro-mechanical transmission. These units are equipped with a 400 gallon fuel tank and an operating range of two miles per gallon. For the Fairmount and Fitchburg Lines, operating three active train sets in the proposed schedules provide for a daily operating range of 640 miles for either line (or 720 miles using a 20% contingency on the maximum range of 800 miles), and will only require fueling after the evening peak and before the next morning of operation.

Fueling of the Fairmount DMUs can be either accommodated at the Southampton S&I facility or at Readville using a fuel truck. Given the nature of the DMU achieving EPA Tier 4 final-compliant emissions, the manufacturer requires the use of Urea in the fuel system, which is added to a separate tank of the fuel system. Adding Urea is not a daily event but is required to be completed to ensure the tank does not run empty. Additional Urea with this particular DMU is anticipated to be needed every one to two weeks, which can be delivered in a separate compartment of a fueling truck and requires no additional engineering to achieve Urea delivery.

Training

To optimize maintenance of the DMUs, MBCR will train all required Transportation and Mechanical staff on the vehicle as well as relief staff that will be assigned when needed. During the initial training, MBCR will select staff to be trained and qualified to perform future training needs as required.

The Manufacturer will provide training for MBTA/MBCR employees, including instruction manuals with respect to maintenance intervals and approaches to conduct maintenance activities. The majority of training would be completed by OEMs on the major systems of the vehicle such as: Air Brakes, HVAC, Computer/Electronic Controls, Propulsion System, Doors, Maintenance and Operations.

Bombardier will be operating and maintaining the same FRA-approved DMUs in Toronto, Canada starting in 2014. This provides MBCR a unique opportunity to learn best practices applied by owners and maintainers of the DMU equipment, and access to internal manuals developed to support the ongoing training of the workforce and to train crews operating on the DMU equipment. This training approach will be similar to the type of training MBCR is conducting for acceptance of the Rotems and MPI equipment. Additionally, Veolia and Bombardier both already have extensive global experience in operating, maintaining and managing DMUs for over 16 and 18 years respectively, with a combined 35 operations that run 1,936 DMUs in 11 different countries.

Maintenance for DMU Cars

With the DMU experience of Bombardier and Veolia, we understand that DMU maintenance is different than maintaining traditional locomotive-coach equipment. DMU required maintenance intervals are specified by the Manufacturer and System Suppliers to maintain the equipment in available and reliable condition. Bombardier has been maintaining DMUs at RiverLINE in South New Jersey under FRA compliance, and MBCR will use their experience to develop maintenance practices to comply with the FRA.

Maintenance of the DMUs considers Hours of Use (basically for prime mover fluid changes) and Time Intervals for specified systems. Maintenance tasks for the various systems have not been completed by the manufacturer at this time; therefore, we cannot provide a complete and accurate star chart. However, maintenance intervals with some information for various systems have been supplied by the manufacturer and, combined with the experience of Bombardier and Veolia, the following is the expected maintenance for the DMU vehicle. With our LCM approach previously described, specified overhauls in later years could be altered dependent on their reliability and state.

Power Pack Motor Inspections

- 500 hours – Engine oil change
- 2,000 hours – Engine oil change and valve adjust
- 4,000 hours— Fuel injector tests
- 8,000 hours – Belt changes and turbo charger replace
- 16,000 hours – Overhaul

Preventative Maintenance

- Daily – Interior/Exterior inspection of vehicle and brake tests
- Weekly – Inspect and check
- Monthly – Inspect, check, clean
- Quarterly – Inspect, check, clean, lubricate
- Six months – Inspect, test, clean, lubricate, HVAC servicing
- Annually – Inspect, test, clean, check, repair or replace as necessary
- Two years – Overhaul caliper and tread brake unit
- Three years – Check for wear on wheel assemblies, suspension system and truck guide pins
- Four years – Door and cooling system checks and lubrications, replace cardan drive shafts
- Five years – Air Brake overhaul, exchange fans APU/LVPS, coupler overhaul
- 10 years – Wheel brake disc replacement
- 12 years – Door system overhaul
- 15 years – Coolant system overhaul

Daily maintenance will be performed during the night (11 p.m. - 7 a.m. shift) to perform the daily inspections and cleaning required for service start in the morning while available time towards the end of the shift will be used for maintenance/repair of the spare set. Staff will be allocated for day and afternoon shifts to perform maintenance and any required troubleshooting of vehicles in service.

To ensure availability of the equipment, the maintenance intervals will be balanced ensuring that the DMU fleet does not come due for higher level inspections concurrently.

All maintenance activities and materials will be recorded in the Trapeze EAM system for complete traceability. Our process and procedures in this regard will be the same as for the traditional coach and locomotive trains.

Maintenance Facilities

Parsons Brinkerhoff and MBCR have determined that the current Readville facility can be utilized to support two-car DMU train sets without modification to the exterior of the shop facility. Servicing the DMU equipment at the Readville facility will require a new 10-ton overhead crane, drop table or synchronized lift jack system, Urea storage tank (pump self-contained), oil drainage/filling system, truing machine, fuel truck and material stores for parts and inventory support.

MBCR has explored other options regarding DMU maintenance facilities, including the West Cambridge Engineering Maintenance facility north of CRMF to support North Side operations, and the potential of using Beacon Park recently acquired by the MBTA from CSX for the development of a new centralized layover yard and maintenance facility for North and South Side operations. In addition, the proposed South Side Commuter Rail Maintenance Facility can serve as a suitable location for DMU maintenance and storage. All options under consideration are weighted by the merits of lowest capital cost, operating costs and time to develop to support the introduction of the new DMU service.

Net Financial Impact

In measuring the net financial impact of the implementation of DMU service, there are many variables to consider, including capital costs and operational costs for current conventional coach-locomotive train service versus operational costs for DMU service. Comparing the Fairmount Line locomotive-coach service to DMU service operating 36 roundtrip schedules per week days, the following savings and benefits are expected:

Activity	Usage of Conventional Train Set	Usage of DMU Train Set	Expected Benefit/ Savings
Fuel Consumption	$ 3,362,724	$ 727,365	$ 2,635,359
CO2 Emissions – Carbon grams/hour	726 in Notch 5	EPA Tier 4 Compliance	Improvement in Boston area air quality
Vehicle Coach Miles	1,093,713	335,680	(738,033)
Vehicle Coach Hours	70,228	22,838	(47,390)
Locomotive Miles	177,840	N/A – no locomotive unit – DMU are powered coaches	(177,840)
Locomotive Hours	11,419	N/A – see above	(11,419)
Crew Staffing Costs	$ 1,221,166	$ 878,436	$ 342,730

- **Realized Fuel Savings:** DMU train sets are much more fuel efficient averaging two miles per gallon. MBCR has determined that the cost for fueling 36 roundtrip two-unit DMU train sets on the Fairmount Line will be approximately $727,365 per year, as compared to the current operation of F40PH locomotives consuming $3.3 million per year; over $2.6 M in annual fuel savings.

- **Cost-Savings through Staffing:** With the configuration and advanced technology of a DMU train set, MBCR plans to staff each train with an Engineer and Conductor crew. MBCR has determined that staffing savings of $342,730 annually, a 28% reduction for 36 round trips on Fairmount Line.
- **Increased Fare Revenue:** Increased service frequency and quick transit times on the Fairmount Line provides greater modal choice, a factor of service elasticity that will contribute to increasing the number of riders, the frequency of riders and greater MBTA fare revenue.
- **DMU Procurement Costs:** Pricing for each DMU is contingent upon the negotiation of final design and specifications along with DMU delivery and contingencies. MBCR estimates that the initial procurement of four two-car train sets, sufficient for DMU service on Fairmount, will cost approximately $32-$40 million.
- **Maintenance Costs:** The Readville facility will need certain equipment to perform maintenance of the DMUs. We have explored the most viable and cost effective options for facility updates that would be required. The requirements include:
  - Ten-Ton Overhead Crane
  - Synchronized Lift Jack System – Viewed to be more cost effective and efficient than a drop table as the lift jacks can be used for under car repairs of heavy components.
  - Wheel Truing Machine
  - Urea Storage Tank – 500 gallon system with pump.
  - Oil Drainage/Filling System – Ideally more efficient than using barrels for oil drainage and filling
  - Fuel System – The installation of a fuel stanchion would be most efficient, however, due to the lack of environmental controls currently at Readville this may be an expensive and difficult option. The purchase of a mobile fuel truck to be placed at Readville to fuel the trains as they arrive or when placed in the yard is the cost-effective alternative option.

Ancillary Benefits

MBCR is a strong proponent of DMU service implementation in the Boston metro area as a way to further improve not only Commuter Rail service, but also allow for a greater interconnection between Commuter Rail service and the other services the MBTA provides. The following are some benefits that DMU implementation will usher forth:

- **Increased Ridership:** According to the Central Transportation Planning Staff's (CTPS), Fairmount Line Service Improvements: Potential Use of DMUs (April 2008), the introduction of DMUs into the system to serve the densely populated Boston metro area could potentially result in a 141-164% increase in ridership by 2030.
- **Faster and more efficient service:** DMUs are best suited for shorter distance trips and are an ideal alternative to the locomotive-hauled train sets for the service area. MBCR will be able to provide more frequent service runs in our scheduling, ultimately giving our ridership greater flexibility and more options as to when they can make use of public transit to satisfy their transportation needs.
- **Increased Operational Flexibility:** DMUs are more flexible in their operation in comparison to locomotive-coach trains; they have quicker acceleration and more precise stopping - which allow for timetable savings - can be coupled and decoupled more quickly to respond to changes in passenger volumes, such as special events and peak hours, and possess smaller power units that facilitate operational failure mitigation, as well as the ability to use standardized components for maintenance and repair for overall lower costs. Dynamic breaking for all units also results in less wear on the brakes than traditional Commuter Rail equipment. Also with the introduction of new

DMUs, MBCR/MBTA will be able to either cascade the existing train set assignments into new revenue service on other MBTA lines or facilitate retirement of conventional locomotives and coaches.

- **Increased Customer Satisfaction:** Additional DMU train sets will allow for increased capacity, faster trip times and more frequent service, as well as allowing for the movement of additional conventional equipment to the rest of the network, which will reduce delays due to greater fleet availability.
- **Environmental Benefits:** In addition to being more fuel efficient than the traditional locomotive-coach trains, the identified DMU model uses an engine that meets EPA Tier 4 Final Clean Air requirements, which will come with a 90% reduction in particulate matter emissions, and an 80% reduction in NOx emissions. DMUs are also quieter than locomotives, which allows for a reduction in noise pollution in the neighborhoods through which they travel.

MBCR's Implementation Plan

MBCR has already dedicated resources to analyzing this initiative to develop a comprehensive implementation plan that not only addresses the acquisition of DMU train sets, but also the need to train our existing workforce on how to operate, maintain and repair the new rolling stock. Other elements of this proposed service expansion need to be considered and approved by the MBTA, such as the approval of a facility for DMU maintenance and the establishment of schedules and fare rates for this unique aspect of Commuter Rail.

Procurement Process

We understand that managing a procurement process of this scale can be a time-consuming and potentially frustrating endeavor. As a result, MBCR has identified an FRA-compliant DMU manufacturer currently producing train sets for transit authorities in North America. Sumitomo Corporation of America and Nippon Sharyo have over 30 years of working together in the United States, with Sumitomo handling the commercial and contractual aspects of the DMUs and Nippon Sharyo handling the technical and production aspects of DMU manufacture. The DMUs will be produced in the Nippon Sharyo manufacturing plant in Rochelle, Illinois. We believe we can justify a sole-source procurement which, along with the DMU model already being in production, will result in a faster delivery timeline than a typical procurement process. We aim to provide the MBTA with a turnkey procurement that is managed closely by MBCR. As we continue to work with the introduction, operation and servicing of DMUs as part of the commuter rail fleet, we will work to expand the scope of DMUs as part of regular Commuter Rail service. MBCR is also prepared to assist in financing the purchase of DMUs.

Partner Experience

Veolia Transportation

- # of DMU train sets managed globally: **376**
- # of operations managed that run DMU train sets: **16**
- Locations of DMU operations: **France, Netherlands, New Zealand, Sweden, United States**
- Years of experience operating and maintaining DMU train sets: **15**

Bombardier Transportation

- # of DMU train sets managed globally: **1560**
- # of operations managed that run DMU train sets: **19**
- Locations of DMU operations: **Australia, Canada, Germany, Scotland, Spain, Sweden, United Kingdom, United States**

Our partners, Veolia and Bombardier, have extensive experience operating, manufacturing, maintaining and repairing DMU train sets. MBCR drew upon their expert guidance while performing our due diligence for the DMU initiative.

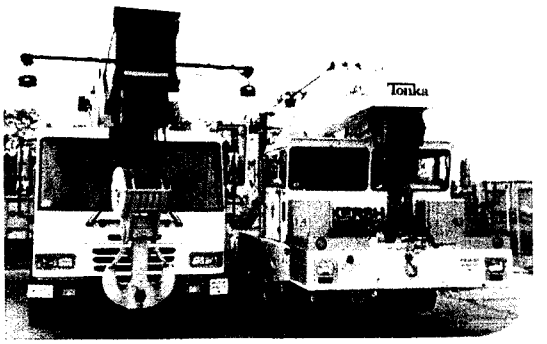
› Years of experience manufacturing, operating and maintaining DMU train sets: **18**

This partner experience has been instrumental in guiding MBCR Management's decision that it is completely feasible for DMUs to be added to the MBTA Commuter Rail fleet in a cost-efficient manner that will provide positive returns on the investment for years to come. As a result of our efforts and desire to continuously improve and advance the Commuter Rail service, MBCR is prepared to implement this change within the duration of the new contract term, pending MBTA approval.

4.A.11 Operating the Re-railing Crane

MBCR's approach to crane operations begins with an established Chief Mechanical Officer notification protocol that ensures quick responses to incidents. Upon arrival on scene, preparatory arrangements are coordinated with MBCR Transportation and Engineering to ensure affected tracks are properly protected and the operation of the re-railing crane is performed safely and with the least amount of operational impacts.

To ensure employee safety and correct crane use, only qualified, properly trained individuals currently certified in crane operation will deploy and operate the MBTA's two mobile wrecking cranes (Kershaw and Mantis). Down time will be managed so at least one crane will be available for use at all times. An arrangement with Pan Am Railways will ensure additional crane support based on incident severity.



Only qualified, properly trained individuals certified in crane operation deploy and operate the MBTA's two mobile wrecking cranes.

An MBTA-approved maintenance plan for the cranes will follow OEM recommendations and comply with annual state inspection requirements and all other applicable regulatory agency requirements. Only qualified, certified vendors will perform scheduled maintenance and repairs during off-peak weekend periods. All inspection and repair data will be captured in Trapeze EAM. Quality control will be provided by MBCR inspection of vendor workmanship in addition to periodic audits.

4.A.12 Required Reporting

MBCR has processes and controls in place to carry out all reporting and notifications required by regulatory agencies, laws, rules and regulations. For example, each department reports all known injuries, incidents, and asset damage. This is inputted in the Accident Incident Report Generator (AIRG), a computer-based system that records and compiles data to meet FRA monthly requirements. To follow these regulations, we created an Internal Control Plan that details our incident and reporting investigation procedures and guides, as well as our corrective actions and follow-ups. This plan also specifies the ways in which we maintain full compliance with internal controls and reporting procedures. The FRA has approved this plan and conducts audits of us every two years. To date, there have been no concerns with our internal controls.

MBCR will submit full detail in the FRA Compliance Management Plan as specified in the RFP. The Compliance Manager will be responsible for compliance of regulatory requirements and obligations pertaining to the revenue and non-revenue service fleets. The Compliance Manager will work with the Mechanical Production Manger and designated QAR's to ensure that:

- All regulatory reporting is timely, accurate and complete
- Written and electronic recordkeeping and retention requirements are met
- The Mechanical Department is kept aware of all planned and pending regulatory changes and rule changes that affect any part of the department's activities

The Compliance Manager will collaborate with department managers to make any changes in work practices. The manager will also provide required follow-up reports resulting from FRA, EPA and APTA audits. They will also:

- Periodically audit the department's regulatory agency compliance related training classes and printed material to ensure the information is accurate, reflects current regulations and training requirements
- Review FRA inspection reports and follow up accordingly to decrease or eliminate instances of non-compliance
- Collectively work with the Mechanical Department to ensure remedial action plans are developed and implemented as necessary
- Be aware of all visits or contacts with regulatory agency representatives

MBCR Mechanical has fostered a sound working relationship with the FRA. Examples of our achievements include:

- Application of emergency signage on the coach fleet
- Reversal of windows for emergency access on the coach fleet
- Application of safety handhold appliances on the single level coaches
- Development of the Software Management Control Plan for locomotives and control coaches
- Completion of horn sound level testing on locomotives and control coaches

We continue to work collaboratively with all regulatory agencies to maintain full compliance with the MBTA vehicle fleet.

4.A.13 Quality

The Quality Assurance Program (QAP) shall set out the organization, processes and resources needed to achieve consistency and uniformity of work performed by the Operator, subcontractors, manufacturers and suppliers through implementation of and adherence to documents described in the Quality Assurance Plan. MBCR will implement a quality program that not only meets the requirements of the RFP, but supports our WCO&M program which will underpin all of our activities. Application of a process-led approach will enable continuous improvement to become the standard throughout the entire operation ensuring customer satisfaction by full compliance with MBTA contract requirements. For MBCR to function effectively as an organization, it will identify and manage numerous linked activities to enable the transformation process from inputs to outputs.

In order to effectively meet MBTA requirements, a quality focused mindset from all employees and robust processes and products are required. We will ensure project performance and service reliability is monitored and improved on a continuous basis. This will be achieved by ensuring standardization and product quality is built into all our processes, products and outputs by:

- Integrated and transparent business planning involving all stakeholders
- Application of standardized processes aligned to the business/project objectives
- Implementing Total Preventive Maintenance (TPM) to ensure required inputs to processes are of high quality
- Using lean methodologies, as required, to support and sustain our processes and operations
- Daily monitoring of service delivery and performance via the Maintenance Operations and Control Center ensuring the capability of our processes to continually meet service requirements

- Feedback loops to systematically identify service defects at source, via Failure Review Board, Reliability and FRACAS reviews, short- and long-term trend analysis, and then drive them out of the system via robust root cause analysis

Three key operating principles support our approach to built-in quality:

- **Process preparation**: Establishing performance criteria and using analysis tools, such as product and process Failure Modes Effects and Analysis (FMEA), for preparing maintenance realization processes which are appropriate to meeting product quality requirements
- **Product Quality (Realization) Requirements**: Providing maintenance teams with precise criteria and skills for achieving product quality requirements
- **In-Process Control**: Using standard operating processes and procedures, supported by the appropriate lean tools to minimize variation ensuring that all deliverables are to the required standards and to reduce waste; in-process controls and audits will look at issues related to materials and equipment used for maintenance operations and apply specific methods discussed below to ensure final outputs are of the required quality

With respect to materials, processes will be established to segregate and contain all rejected materials, and minimize any HSE impacts related to these. This will be done by ensuring that:

- No materials are out of date
- Status and availability of materials are known at all times during the process
- Non-compliant materials are quickly identified and moved from the work area

An appropriate Total Preventive Maintenance (TPM) and calibration program will be established to enable Operators to readily access and identify the correct equipment for the job, and ensure that machinery and tooling of correct specification is always available. This will be achieved by ensuring that:

- All machinery and tooling are adequately identified and available.
- All equipment capability has been assessed and validated
- Required tooling, error proofing devices, gauges, and safety equipment are standardized across similar operations
- Sufficient equipment resources are allocated to assure that consistent quality requirement specifications are achieved

The Quality Manager will be responsible for the QAP, which will include the following minimum requirements:

- Conduct all inspections required to demonstrate full conformance to service performance standards
- Manage any independent third-party analysis requirements
- Utilize an inspection system capable of producing objective evidence that materials provided and finished work performed by MBCR meet the quality requirements of MBTA
- Utilize an inspection system that provides for the detection and removal of non-conforming work or material where it can be corrected before being placed into a downstream configuration
- Designate Quality Assurance Representatives (QAR) who will report to the Director of Quality
- Develop and implement a QAP that addresses each of the clauses in ANSI/ISO/ASQ9001-2008.
- Establish a Quality Control Process Manual (QCPM) that includes guidelines for the following: conducting quality control

inspections, documenting performance failures and incidents of non-compliance with the Agreement requirements, and reporting all performance failures and instances of non-compliance

- Develop and implement calibration standards, processes, procedures and documentation for all tools and equipment that are used to measure and verify characteristics and processes (ODRL 3.6-007)
- Develop a Configuration Management Plan as described in the RFP
- Prepare and implement an Audit Plan that encompasses all areas of Agreement Services (ODRL 3.6-012)

We are evolving our organization around quality and continuous improvement. We are adding new data systems and training our management to make our organization even more quality-centered. Our proposed implementation of additional modules to the Trapeze EAM system for data collection, stratification and analysis will provide the system infrastructure necessary to support this transition to a data driven, quality- assurance-based organization. Our intent is to create a culture of continuous improvement through fact-based, data-driven analysis, employee engagement and the use of ISO, ANSI and ASQ standards.

This year MBCR embarked on an ambitious program to train managers in the application of quality management tools and techniques so that staff can receive ASQ certification. Through the remainder of this year, managers from all departments will be trained and certified in quality. We are also committed to the goal of having one key manager from each department extensively trained in Statistical Process Control to the Six Sigma "Black Belt" level of knowledge. In addition to this, we added the position of Manager of Quality to our organization in 2013.

MBCR has already earned ISO 9001 certification in the Truck Shop, Traction Motor Shop and Wheel Truing Machine Shop in 2012. Our Mechanical Department is developing a Quality Department to facilitate continuous improvement and reduce the occurrences of non-conformance.

4.B Maintenance Plans for All MBTA Rolling Stock and Maintenance Cost Schedules

MBCR has developed a maintenance plan for the existing equipment and new equipment that will be received by MBTA. We have used a star chart format for each equipment type which identifies the tasks for each equipment type and using color codes to identify the action associated with the task. For example, a task may have a black dot in the daily column which indicates "Inspection" and a red dot in the 92 day column which indicates "Replace".

The attached are maintenance plans as requested in Appendix B to ITP of the RFP. Our plans are not intended to replace the details that will be provided with the following Operator Deliverables Requirement List (ODRL):

- Equipment List
- Maintenance Allocation Chart
- LCM Program
- Comprehensive Preventive Maintenance, Inspection and Cleaning Plan
- Fleet Maintenance Plan

The above ODRL's will provide detailed information for each equipment type, however, we believe the attached shows our knowledge of the required maintenance activities to provide required maintenance and asset management.

Following the maintenance plans are the maintenance cost schedules for the MPI HSP 046 Locomotives, Rotem BiLevel CTC/BTC, and Kawasaki CTC/BTC Overhaul coaches.

Section 4.B -
Maintenance Plans &
Cost Schedules

Section 4.B

Maintenance Plans & Cost Schedules

MBCR

Vehicle Location KEY:			
CARBODY EXTERIOR AND INTERIOR: CB		AIR SYSTEM: AS	
HVAC SYSTEM: HV		AUXILIARY POWER SUPPLY: APS	
TRUCK SUSPENSION/COUPLER DRAFT GEAR: TS		COMMUNICATION: CM	
BRAKE SYSTEM: BS		CAB CONTROLS: CC	
EVENT/ALERTER SYSTEM: EV		AIR BRAKE SYSTEM: AB	
DOOR SYSTEM: DS		POSITIVE TRAIN CONTROL / ATC / ACSES: PTC	

COLOR KEY:	
INSPECTION	●
REPLACE	●
CLEAN	●
LUBRICATE	
TEST	●

VEHICLE TYPE: CAB TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)			REQUIREMENT	FREQUENCY									
		K.CTC 1700	BT CTC 1625	MBB CTC 1500		DAILY	03 DAY	05 DAY	30 DAY	45 DAY	92 DAY	365 DAY	730 DAY	1460 DAY	2920 DAY
CB	CHECK UNDERCAR PIPING FOR SIGNS OF LOOSENING AND DAMAGE	●	●	●	49CFR238	●					●	●	●	●	●
CB	INSPECT ALL PIPING, VALVES, HOSES & FITTINGS THAT SHOW SIGNS OF LEAKS, ABRASIONS, CRACKS, HOLES, HAVE MISSING OR BROKEN COMPONENTS OR ARE BELIEVED TO HAVE RESTRICTIONS.	●	●	●	49CFR238						●	●	●	●	●
CB	REPAIR ANY TORN OR MISSING PIPE INSULATION	●	●	●	MBCR						●	●	●	●	●
CB	FLUSH AND CLEAN DRAINPAN UNDER EVAPORATOR COILS	●	●	●	OEM							●	●	●	●
HV	CLEAN SURFACE OF CONDENSER COILS	●	●	●	OEM						●	●	●	●	●
TS	INSPECT TRUCK FRAME AND TRUCK-MOUNTED COMPONENTS FOR PROPER SECUREMENT AND EXCESSIVE WEAR - INCLUDING LEVERS, RODS, BRAKE BEAMS OR HANGERS, EQUALISERS, PEDASTAL LINER TIE STRAPS AND SAFETY WIRES	●	●	●	49CFR238	●					●	●	●	●	●
TS	INSPECT ALL GROUND STRAPS	●	●	●	49CFR238	●									
TS	ALL DAMPERS ARE PROPERLY SECURED WITH NO LEAKS (CLEARLY DEFINED OIL DROPLETS	●	●	●	49CFR238	●									
TS	SECONDARY SUSPENSION MUST NOT BE OVR INFLAYTED OR SHOW SIGNS OF EXCESSIVE WEAR	●	●	●	49CFR238	●									
TS	BOLSTER ANCHOR/RADIUS RIMS MUST NOT BE LOSE OR MISSING	●	●	●	49CFR238	●									
TS	SIDE BEARING ASSEMBLIES MUST HAVE CORRECT CLEARANCE	●	●	●	49CFR238	●									
BS	INSPECT ALL BRAKE EQUIP INCL. VALVES TREAD BRAKES FOR PROPER OPERATION, SECUREMENT OF ALL BOLTS AND BUSHINGS AND COTTER KEYS	●	●	●	49CFR238	●					●	●	●	●	●
TS	OUTER COIL SPRINGS MUST NOT BE BROKEN OR DISPLAY WAR MARKS ON COILS	●	●	●	49CFR238	●									
TS	MEASURE PRIMARY SPRING HEIGHT AND RECORD AVG FOR EACH TRUCK.	●	●	●	49CFR238						●	●	●	●	●
TS	INSPECT WHEELS AXLES FOR CRACKS, CHIPS, GOUGES AND BREAKS.MEASURE WHEEL FLANGE AND RIM THICKNESS FOR COMPLIANCE. CHECK FOR OVERHEATING OR DISCOLORATION AND COMPLETE WHEEL REPORT	●	●	●	49CFR238	●					●	●	●	●	●
TS	INSPECT ROLLER BEARINGS FOR EXCESSIVES GREASE LEAKAGE. BEARING END CAP SCREWS MUST NOT BE LOSE OR MISSING. BEARING END CAP MUST NOT BE CRACKED, BROKEN OR MISSING. BEARING SCREW LOCKING PLATE IS IN GOOD CONDITION AND PROPERLY APPLIED.	●	●	●	49CFR238	●									
TS	INSPECT HOT BEARING WARNING DEVICE. ENSURE GREASE SEALS ARE NOT LOOSE, COCKED OR MISALIGNED AND BEARING ADAPTORS ARE IN PROPER POSITION FOR SERVICE	●	●	●	49CFR238	●									
TS	BRAKE SHOES MUST NOT BE LOOSE, MISSING OR IMPROPRLY ALIGNED WITH BRAKING SURFACES.SHOES MUST NOT BEWORN TO A THICKNESS OF 3/8 IN OR LESS AT THINEST POINT.	●	●	●	49CFR238	●					●	●	●	●	●
BS	CONDUCT 5 DAY BRAKE DISC INSPECTION	●			49CFR238			●							
TS	INSPECT KAWASAKI BRAKE DISCS FOR DEFECTS AND EXCESSIVE WEAR. SLACK ADJUSTERS MUST BE OPERATIONAL	●			49CFR238	●					●	●	●	●	●
TS	INSPECT COUPLERS AND COUPLER PARTS FOR WEAR, HEIGHT AND CONDITION RECORD ON CRM-3A (COUPLER HEAD AND SHANK MUST NOT HAVE CRACKS, BREAKS OR BE BENT. UNCOUPLING LEVERS ARE IN GOOD CONDITION, FREE OF OBSTRUCTION AND SECURED IN THE LOCKED POSITION. TELL-TALE RECESS AND HOLE FULLY VISIBLE	●	●	●	49CFR238	●					●	●	●	●	●
TS	COUPLER SHANK PIN RETAINING KEY MUST NOT BE CRAKED OR WORN MORE THAN 25%	●	●	●	49CFR238	●									
TS	LOCK LIFT ASSEMBLY MUST HAVE PROPER ROD EYE CLEARANCE WHEN COUPLER LOCKED AND CENTERED	●	●	●	49CFR238	●									
TS	INSPECT DRAWBAR CONNECTION FOR DEFECTS	●	●	●	49CFR238	●									
TS	INSPECT DRAFT GEAR - TIGHTNESS IN POCKET, CRACKING, OTHER DAMAGES	●	●	●	49CFR238						●	●	●	●	●
TS	4 YEAR TRUCK OVERHAUL +BRAKES (MINUS RADIUS ARM RUBBERS, DISC BRAKE ACTUATOR BUSHING, AIR BAGS, LATERIAL STOPS PRIMARY SPRINGS, BOLSTER WEAR PLATE AND PAD	●	●	●	49CFR238									●	
TS	4 YEAR TRUCK OVERHAUL +BRAKES (INCLUDING RADIUS ARM RUBBERS, DISC BRAKE ACTUATOR BUSHING, AIR BAGS, LATERIAL STOPS PRIMARY SPRINGS, BOLSTER WEAR PLATE AND PAD)	●	●	●	49CFR238										●

VEHICLE TYPE: CAB TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)			REQUIREMENT	FREQUENCY									
		K-CTC 1700	BT CTC 1625	MBB CTC 1500		DAILY	03 DAY	05 DAY	30 DAY	45 DAY	92 DAY	365 DAY	730 DAY	1460 DAY	2920 DAY
CB	INSPECT ENTIRE CAR BODY FOR LOOSE , DEFECTIVE AND MISSING PARTS, TO INCLUDE LUGGAGE RACKS, HANDHOLDS (CHECK 2IN CLEARANCE) SEATS, SEAT ATTACHMENTS AND TRAP DOORS	●	●	●	49CFR238	●					●	●	●	●	●
CB	ENSURE FLOORS ARE FREE OF TRIPPING AND FIRE HAZARDS. RECTIFY AS REQUIRED	●	●	●	49CFR238	●									
CB	VERIFY VESTIBULE STEP ILLUMINATION	●	●	●	49CFR238	●									
CB	CLEAN FRESH AIR INTAKE SCREEN AT BOTH ENDS	●	●	●	49CFR238						●	●	●	●	●
CB	AIR FILTER MAINTENANCE INSPECTION	●	●	●	MBTA				●						
CB	TEST AND LUBRICATE THE HANDBRAKE	●	●	●	49CFR238 / FRA F 6180-49A	◍					◍	◍	◍	◍	◍
CB	INSPECT FIRE EXTINGUISHER GAUGE AND DATE	●	●	●	49CFR238	●					●	●	●	●	●
CB	INSPECT FOR EMERGENCY PRY BAR AND FLAGGING KIT IN PLACE	●	●	●	49CFR238	●					●	●	●	●	●
CB	CHECK FOR FIRST AID KIT AND REPLENISH AS NECESSARY	●	●	●	49CFR238	●					●	●	●	●	●
DS	LUBRICATE ALL MOVEABLE PARTS INCLUDING DOOR TRACKS AND ROLLERS WITH DRY GRAPHITE	●	●	●	49CFR238										
TS	LUBRICATE THE ROTARY SHOCK LINKAGES ON KAWASAKI COACHES WITH LUBRIKO M-31 GREASE OR ITS EQUIVALENT (EP-2)	●	●	●	49CFR238										
HV	REPLACE BAD-ODOR SPONGE AT BOTH ENDS OF CAR	●	●	●	OEM						●	●	●	●	●
CB	REMOVE CAB CARD AND REPORT ALL TEST DATES. REAPPLY CAB CARD AT CONCLUSION OF INSPECTION	●	●	●	49CFR238						●	●	●	●	●
AS	TEST AIR GAUGES	●	●	●	49CFR238						◍	◍	◍	◍	◍
APS	FILTER SOC CHANGE OUT (AIR BRAKE)	●	●	●	OEM						●	●	●	●	●
CB	REMOVE AND REPLACE BELL CARTRIDGES AND WINDSHIELD WIPERS	●	●	●	OEM						●	●	●	●	●
AS	TEST AIR BRAKE, HORN, BELL, SANDERS AND WINDSHIELD WIPERS	●	●	●	49CFR238	◍					◍	◍	◍	◍	◍
CB	INSPECT ALL SEATS, SEAT CUSHIONS AND SEAT ATTACHMENTS FOR BROKEN, LOOSE, OR SHARP EDGES	●	●	●	49CFR238	●					●	●	●	●	●
CB	EMERGENCY EXIT IDENTIFICATIONS MUST NOT BE MISSING. OPERATING HANDLES MUST NOT BE BROKEN OR IMPROPERLY INSTALLED	●	●	●		●									
CB	VERIFY PROPER OPERATION OF EMERGENCY EXIT WINDOW LOCATION AND RECORD _____, _____	●	●	●	CFR238						●	●	●	●	●
CB	SAMPLE REMOVAL OF EMERGENCY EXIT WINDOWS	●	●	●		●					●				
CB	CHECK FOR PROPER EMERGENCY SIGNAGE INTERIOR AND EXTERIOR AND HIGH VOLTAGE SIGNS.	●	●	●	49CFR238	●					●	●	●	●	●
CB	LUBRICATE LATERAL SHOCK ABSORBER ROD ENDS	●	●	●	49CFR238										
HV	CLEAN RETURN AIR FILTER GRILLS	●	●	●	49CFR238	◍					◍	◍	◍	◍	◍
HV	REPLACE COMPRESSOR, FILTER DRYER CORE, SUCTION GASKET, DISCHARGE GASKET, COMPRESSOR OIL SERVICE VALVE, HEATER FAN	●	●	●	49CFR238										●
BS	EXTERIOR AND INTERIOR CALENDAR DAY MI. PERFORM CLASS 1 AIR BRAKE INSPECTION AND BRAKE TEST	●	●	●	49CFR238	◍									
AB	TEST ALL EMERGENCY VALVES (CONDUCTORS VALVES)	●	●	●	49CFR238	◍					◍	◍	◍	◍	◍
CB	INSPECT ALL UNDERSIDE CONDUIT AND ENCLOSURES FOR SIGNS OF DAMAGE AND SEAL INTEGRITY	●	●	●	49CFR238						●	●	●	●	●
CB	CHECK UNDER CAR HIGH AND LOW VOLTAGE WIRING AND CABLING AND ELECTRICAL EQUIPMENT FOR SIGNS OF DAMAGE OR OVERHEATING	●	●	●	49CFR238						●	●	●	●	●
TS	HOT JOURNAL AND WHEEL SLIDE DETACTION SYSTEMS MUST BE OPERABLE	●	●	●	49CFR238	●									
CB	CHECK ALL WHEEL SENSORS AND CABLING FOR SIGNS OF DAMAGE AND PROPER GAP	●	●	●	49CFR238						●	●	●	●	●
CB	INSPECT AND CLEAN ALL JUMPERS AND JUMPER RECEPTACLES	●	●	●	49CFR238	●					●	●	●	●	●
CB	REPAIR OR REPLACE AS NEEDED ALL GROUND STRAPS AND CABLES	●	●	●	49CFR238	●					●	●	●	●	●
APS	CHECK BATTERY CHARGER FOR PROPER OPERATION AND VOLTAGE SETTING - 72 VDC	●	●	●	49CFR238						◍	◍	◍	◍	◍

VEHICLE TYPE: CAB TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)			REQUIREMENT	FREQUENCY									
		K.CTC 1700	BT CTC 1625	MBB CTC 1500		DAILY	03 DAY	05 DAY	30 DAY	45 DAY	92 DAY	365 DAY	730 DAY	1460 DAY	2920 DAY
CB	480VAC CABLE RECEPTACLES DOES NOT INTERFERE WITH UNCOUPLING LEVER AND THE JUMPER CABLE HEADS ARE PROPERLY SECURED	●	●	●	49CFR238	●									
CB	TEST ALL 480 VAC, M.U. AND SIGNAL CIRCUITS	●	●	●	49CFR238	◐					◐	◐	◐	◐	◐
CB	CHECK ALL SWITCHES, RELAYS, CONTACTORS, SHUNT TRIPS, WIRING CONNECTIONS AND CIRCUIT BREAKERS FOR PROPER POSITIONING AND OPERATIONS, SIGNS OF LOOSENING AND OVERHEATING.	●	●	●	49CFR238	●					●	●	●	●	●
CB	REPLACE AS NEEDED HEAD LIGHTS, BRAKE INDICATOR LIGHTS, CLASS LIGHTS, CROSSING LIGHTS, NUMBER LIGHTS, STEP LIGHTS, EMERGENCY LIGHTS, GLOW STICKS AND GENERAL LIGHTING.	●	●	●	49CFR238	●					●	●	●	●	●
CB	TEST WHEEL SLIDE SYSTEM FOR PROPER OPERATION AND SECURE CONTROL BOX	●	●	●	49CFR238						◐	◐	◐	◐	◐
DS	TEST POWER DOOR OPERATION-POWER DOOR EQUIPPED COACHES ONLY	●	●	●	49CFR238	◐					◐	◐	◐	◐	◐
CB	ENSURE ALL ELECTRICAL CABINET SEALS ARE IN GOOD CONDITION	●	●	●	49CFR238	●									
CB	CLEAN AND VACUUM ALL ELECTRICAL LOCKERS.	●	●	●	OEM						●	●	●	●	●
HV	CHECK FOR PROPER OPERATION OF H.V.A.C. CONTROLS AND THERMOSTATS	●	●	●	49CFR238	●					●	●	●	●	●
HV	CHECK THE EVAPORATOR BLOWER AND CONDENSER FANS FOR PROPER WORKING CONDITION	●	●	●	49CFR238						●	●	●	●	●
HV	REPLACE RETURN AIR FILTERS	●	●	●	OEM						●	●	●	●	●
HV	INSPECT ENTIRE H.V.A.C. SYSTEM FOR LOOSE OR MISSING COMPONENTS, LEAKS AND SIGNS OF EXCESSIVE VIBRATION	●	●	●	49CFR238						●	●	●	●	●
HV	INSPECT COMPRESSOR FOR PROPER OIL LEVEL AND RECEIVER TANK FOR PROPER REFRIGERANT LEVEL	●	●	●	49CFR238	●					●	●	●	●	●
CB	TEST HIGH AND LOW VOLTAGE SYSTEMS FOR GROUNDS	●	●	●	49CFR238	◐					◐	◐	◐	◐	◐
APS	CHECK BATTERY CELL VOLTAGE AND RECORD READING ON CRM-22C. FILL CELLS TO FULL MARK. WASH TRAYS, TIGHTEN CONNECTIONS AND GREASE TERMINALS	●	●	●	49CFR238	●					●	●	●	●	●
CB	TEST SANDER MAGNET VALVE	●	●	●	49CFR238						◐	◐	◐	◐	◐
CB	CHECK WINDSHIELD WASHER FLUID TO THE FULL MARK AND TOP UP AS REQUIRED	●	●	●	49CFR238	●									
CB	TEST WINDSHIELD DEFOGGER, GAUGE LIGHTS AND INDICATOR LIGHTS	●	●	●	49CFR238						◐	◐	◐	◐	◐
HV	CHECK OPERATION OF CAB HEATERS	●	●	●	OEM						◐	◐	◐	◐	◐
HV	INSPECT AND REPAIR TRAP HEATERS AS NEEDED	●	●	●	OEM						●	●	●	●	●
CM	VERIFY PUBLIC ADDRESS, PA AND INTERCOM SYSTEM IS OPERATIONAL	●	●	●	49CFR238	◐					◐	◐	◐	◐	◐
CM	VERIFY RADIO IS OPERATING CORRECTLY	●	●	●	49CFR238	◐									
CC	TEST THE CAB SIGNAL SYSTEM	●	●	●	49CFR238	◐				◐	◐	◐	◐	◐	◐
PTC	TEST THE ACSES SYSTEM	●	●	●	49CFR238						◐	◐	◐	◐	◐
EV	ALERTER AND SPEEDOMETER OVERSPEED TRIP MUST BE FUNCTIONAL AND PROPERLY SEALED	●	●	●	49CFR238	◐									
EV	TRIAN OVER -SPEED TRIP MUST BE FUNCTIONAL AND PROPERLY SEALED	●	●	●	49CFR238	◐									
EV	ATC AND PTC EQUIPMENT MUST BE FUNCTIONAL AND PROPERLY SEALED	●	●	●	49CFR238	◐									
EV	TEST THE OPERATION OF THE EVENT RECORDER INCLUDING ACCURATE DATE AND TIME STAMP, AND SPEED INDICATOR	●	●	●	49CFR238	◐						◐	◐	◐	◐
EV	TEST & DATE ONBOARD TEST PRESS SWITCH (20 INCREASING)	●	●	●	49CFR238								◐	◐	◐
EV	TEST & DATE STOP INSURING PRESS SWITCH (60 DECREASING)	●	●	●	49CFR238								◐	◐	◐
EV	CHANGE & DATE SUPPRESSION PRESS SWITCH	●	●	●	49CFR238								●	●	●
AB	CTC 1-YR AIR BRAKE COMPONENT CHANGE	●	●	●	49CFR238							●			
CB	CHANGE 2 BP & 2 MR HOSES (Every 2nd 2 year inspection)	●	●	●	49CFR238									●	●

VEHICLE TYPE: CAB TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)			REQUIREMENT	FREQUENCY									
		K-CTC 1700	BT CTC 1625	MBB CTC 1500		DAILY	03 DAY	05 DAY	30 DAY	45 DAY	92 DAY	365 DAY	730 DAY	1460 DAY	2920 DAY
CB	UNDERTAKE CLASS C VEHICLE CLEAN	●	●	●	MBTA	●									
CB	UNDERTAKE CLASS B VEHICLE CLEAN	●	●	●	MBTA		●								
CB	UNDERTAKE CLASS A VEHICLE CLEAN	●	●	●	MBTA				●		●	●	●	●	●
CB	CHECK TOILET DOOR OPERATION. SERVICE (WATER). REPLENISH TOILET AMENITIES AS REQUIRED. REPAIR AS NEEDED TOILET SYSTEM AND OTHER RESTROOM APPARATUS.			●	49CFR238	●					●	●	●	●	●
AB	CTC 2-YR AIR BRAKE COMPONENT CHANGE	●	●	●	49CFR238								●	●	●

Vehicle Location KEY:			
CARBODY EXTERIOR AND INTERIOR: CB		TOILET SYSTEM: TO	
HVAC SYSTEM: HV		AIR SYSTEM: AS	
TRUCK SUSPENSION/COUPLER DRAFT GEAR: TS		AUXILIARY POWER SUPPLY: APS	
BRAKE SYSTEM: BS		COMMUNICATION: CM	
EVENT/ALERTER SYSTEM: EV		CAB CONTROLS: CC	
DOOR SYSTEM: DS		AIR BRAKE SYSTEM: AB	
		POSITIVE TRAIN CONTROL / ATC / ACSES: PTC	

COLOR KEY:	
INSPECTION:	●
REPLACE:	●
CLEAN:	●
LUBRICATE:	
TEST:	●

VEHICLE TYPE: BLIND TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)									REQUIREMENT	FREQUENCY						
		BTC 200	BTC350	BTC500	BTC600	K.BTC700	K.BTC750	K.BTC767	K.BTC900	BTC1600		DAILY	03 DAY	05 day	30 DAY	180 DAY	1460 DAY	2920 DAY
CB	CHECK UNDERCAR PIPING FOR SIGNS OF LOOSENING AND DAMAGE	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
CB	INSPECT ALL PIPING, VALVES, HOSES & FITTINGS THAT SHOW SIGNS OF LEAKS, ABRASIONS, CRACKS, HOLES, HAVE MISSING OR BROKEN COMPONENTS OR ARE BELIEVED TO HAVE RESTRICTIONS.	●	●	●	●	●	●	●	●	●	49CFR238					●	●	●
CB	REPAIR ANY TORN OR MISSING PIPE INSULATION	●	●	●	●	●	●	●	●	●	MBCR					●	●	●
CB	FLUSH AND CLEAN DRAINPAN UNDER EVAPORATOR COILS	●	●	●	●					●	OEM					●		●
HV	CLEAN SURFACE OF CONDENSER COILS	●	●	●	●	●	●	●	●	●	OEM					●	●	●
TS	INSPECT TRUCK FRAME AND TRUCK-MOUNTED COMPONENTS FOR PROPER SECUREMENT AND EXCESSIVE WEAR - INCLUDING LEVERS, RODS, BRAKE BEAMS OR HANGERS, EQUALISERS, PEDASTAL LINER TIE STRAPS AND SAFETY WIRES	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
TS	INSPECT ALL GROUND STRAPS	●	●	●	●					●	49CFR238	●				●		
TS	ALL DAMPERS ARE PROPERLY SECURED WITH NO LEAKS (CLEARLY DEFINED OIL DROPLETS	●	●	●	●					●	49CFR238	●				●		
TS	SECONDARY SUSPENSION MUST NOT BE OVR INFLAYTED OR SHOW SIGNS OF EXCESSIVE WEAR	●	●	●	●					●	49CFR238	●				●		
TS	BOLSTER ANCHOR/RADIUS RIMS MUST NOT BE LOSE OR MISSING	●	●	●	●					●	49CFR238	●				●		
TS	SIDE BEARING ASSEMBLIES MUST HAVE CORRECT CLEARANCE	●	●	●	●	●	●	●	●	●	49CFR238	●				●		
BS	INSPECT ALL BRAKE EQUIP INCL. VALVES TREAD BRAKES FOR PROPER OPERATION, SECUREMENT OF ALL BOLTS AND BUSHINGS AND COTTER KEYS	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
TS	OUTER COIL SPRINGS MUST NOT BE BROKEN OR DISPLAY WAR MARKS ON COILS	●	●	●	●					●	49CFR238	●				●		
TS	MEASURE PRIMARY SPRING HEIGHT AND RECORD AVG FOR EACH TRUCK.	●	●	●	●	●	●	●	●	●	49CFR238					●	●	●
TS	INSPECT WHEELS AXLES FOR CRACKS, CHIPS, GOUGES AND BREAKS.MEASURE WHEEL FLANGE AND RIM THICKNESS FOR COMPLIANCE. CHECK FOR OVERHEATING OR DISCOLORATION AND COMPLETE WHEEL REPORT	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●

VEHICLE TYPE: BLIND TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)									REQUIREMENT	FREQUENCY						
		BTC 200	BTC350	BTC500	BTC600	K.BTC700	K.BTC750	K.BTC767	K.BTC900	BTC1600		DAILY	03 DAY	05 day	30 DAY	180 DAY	1460 DAY	2920 DAY
TS	INSPECT ROLLER BEARINGS FOR EXCESSIVES GREASE LEAKAGE. BEARING END CAP SCREWS MUST NOT BE LOSE OR MISSING. BEARING END CAP MUST NOT BE CRACKED, BROKEN OR MISSING. BEARING SCREW LOCKING PLATE IS IN GOOD CONDITION AND PROPERLY APPLIED.	●	●	●	●					●	49CFR238	●				●		
TS	INSPECT HOT BEARING WARNING DEVICE. ENSURE GREASE SEALS ARE NOT LOOSE, COCKED OR MISALIGNED AND BEARING ADAPTORS ARE IN PROPER POSITION FOR SERVICE	●	●	●	●					●	49CFR238	●				●		
TS	BRAKE SHOES MUST NOT BE LOOSE, MISSING OR IMPROPRLY ALIGNED WITH BRAKING SURFACES.SHOES MUST NOT BEWORN TO A THICKNESS OF 3/8 IN OR LESS AT THINEST POINT. CHANGE AS REQUIRED.	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
TS	INSPECT COUPLERS AND COUPLER PARTS FOR WEAR, HEIGHT AND CONDITION RECORD ON CRM-3A (COUPLER HEAD AND SHANK MUST NOT HAVE CRACKS, BREAKS OR BE BENT. UNCOUPLING LEVERS ARE IN GOOD CONDITION, FREE OF OBSTRUCTION AND SECURED IN THE LOCKED POSITION. TELL-TALE RECESS AND HOLE FULLY VISIBLE	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
TS	COUPLER SHANK PIN RETAINING KEY MUST NOT BE CRAKED OR WORN MORE THAN 25%	●	●	●	●					●	49CFR238	●				●		
TS	LOCK LIFT ASSEMBLY MUST HAVE PROPER ROD EYE CLEARANCE WHEN COUPLER LOCKED AND CENTERED	●	●	●	●					●	49CFR238	●				●		
TS	INSPECT DRAWBAR CONNECTION FOR DEFECTS	●	●	●	●					●	49CFR238	●				●		
TS	INSPECT DRAFT GEAR - TIGHTNESS IN POCKET, CRACKING, OTHER DAMAGES	●	●	●	●	●	●	●	●	●	49CFR238					●	●	●
TS	4 YEAR TRUCK OVERHAUL +BRAKES (MINUS DISC BRAKE ACTUATOR BUSHING, AIR BAGS)	●	●	●	●					●	49CFR238						●	
TS	4 YEAR TRUCK OVERHAUL +BRAKES (INCLUDING DISC BRAKE ACTUATOR BUSHING, AIR BAGS)	●	●	●	●					●	49CFR238							●
CB	INSPECT ENTIRE CAR BODY FOR LOOSE , DEFECTIVE AND MISSING PARTS, TO INCLUDE LUGGAGE RACKS, HANDHOLDS (CHECK 2IN CLEARANCE) SEATS, SEAT ATTACHMENTS AND TRAP DOORS	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
CB	ENSURE FLOORS ARE FREE OF TRIPPING AND FIRE HAZARDS. RECTIFY AS REQUIRED	●	●	●	●					●	49CFR238	●				●		
CB	VERIFY VESTIBULE STEP ILLUMINATION	●	●	●	●					●	49CFR238	●				●		
CB	CLEAN FRESH AIR INTAKE SCREEN AT BOTH ENDS	●	●	●	●	●	●	●	●	●	49CFR238					●	●	●
CB	AIR FILTER MAINTENANCE INSPECTION	●	●	●	●	●	●	●	●	●					●			
CB	TEST AND LUBRICATE THE HANDBRAKE	●	●	●	●	●	●	●	●	●	49CFR238 / FRA F 6180-49A	●				●	●	●
CB	INSPECT FIRE EXTINGUISHER GAUGE AND DATE	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
CB	INSPECT FOR EMERGENCY PRY BAR AND FLAGGING KIT IN PLACE	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●

VEHICLE TYPE: BLIND TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)									REQUIREMENT	FREQUENCY						
		BTC 200	BTC350	BTC500	BTC600	K.BTC700	K.BTC750	K.BTC767	K.BTC900	BTC1600		DAILY	03 DAY	05 day	30 DAY	180 DAY	1460 DAY	2920 DAY
CB	REPLACE E-TYPE FILTER CARTRIDGE	●	●	●	●					●	49CFR238					●		
CB	CHECK FOR FIRST AID KIT AND REPLENISH AS NECESSARY	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
DS	LUBRICATE ALL MOVEABLE PARTS INCLUDING DOOR TRACKS AND ROLLERS WITH DRY GRAPHITE	●	●	●	●	●	●	●	●	●	49CFR238							
HV	REPLACE BAD-ODOR SPONGE AT BOTH ENDS OF CAR	●	●	●	●	●	●	●	●	●	OEM					●	●	●
AS	TEST AIR GAUGES	●	●	●	●	●	●	●	●	●	49CFR238					◍	◍	◍
APS	FILTER SOC CHANGE OUT [AIR BRAKE]	●	●	●	●	●	●	●	●	●	OEM					●	●	●
CB	INSPECT ALL SEATS, SEAT CUSHIONS AND SEAT ATTACHMENTS FOR BROKEN, LOOSE, OR SHARP EDGES	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
CB	EMERGENCY EXIT IDENTIFICATIONS MUST NOT BE MISSING. OPERATING HANDLES MUST NOT BE BROKEN OR IMPROPERLY INSTALLED	●	●	●	●					●	49CFR238	●				●		
CB	VERIFY PROPER OPERATION OF EMERGENCY EXIT WINDOW LOCATION AND RECORD _____, _____	●	●	●	●	●	●	●	●	●	CFR238					●	●	●
CB	SAMPLE REMOVAL OF EMERGENCY EXIT WINDOWS	●	●	●	●					●	49CFR238	●				●	●	
CB	CHECK FOR PROPER EMERGENCY SIGNAGE INTERIOR AND EXTERIOR AND HIGH VOLTAGE SIGNS.	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
CB	LUBRICATE LATERAL SHOCK ABSORBER ROD ENDS	●	●	●	●	●	●	●	●	●	49CFR238							
HV	CLEAN RETURN AIR FILTER GRILLS	●	●	●	●	●	●	●	●	●	49CFR238	◍				●	●	●
AS	PERFORM SINGLE CAR AIR TEST (RECORD ON CRM-3A)NOT ON 180 DAY IN LINE INSPECTION EXCEPT IF CONDITIONS WARRANT	●	●	●	●					●	49CFR238					◍		
CB	STENCIL 4 YEAR DATE & LOCATION ON MAIN RESERVOIR	●	●	●	●					●	49CFR238						●	
HV	REPLACE COMPRESSOR, FILTER DRYER CORE, SUCTION GASKET, DISCHARGE GASKET, COMPRESSOR OIL SERVICE VALVE, HEATR FAN	●	●	●	●	●	●	●	●	●	49CFR238							●
BS	EXTERIOR AND INTERIOR CALENDAR DAY MI. PERFORM CLASS 1 AIR BRAKE INSPECTION AND BRAKE TEST	●	●	●	●	●	●	●	●	●	49CFR238	◍				◍		
AB	TEST ALL EMERGENCY VALVES (CONDUCTORS VALVES)	●	●	●	●	●	●	●	●	●	49CFR238	◍				◍	◍	◍
CB	INSPECT ALL UNDERSIDE CONDUIT AND ENCLOSURES FOR SIGNS OF DAMAGE AND SEAL INTEGRITY	●	●	●	●	●	●	●	●	●	49CFR238					●	●	●
CB	CHECK UNDER CAR HIGH AND LOW VOLTAGE WIRING AND CABLING AND ELECTRICAL EQUIPMENT FOR SIGNS OF DAMAGE OR OVERHEATING	●	●	●	●	●	●	●	●	●	49CFR238					●	●	●
TS	HOT JOURNAL AND WHEEL SLIDE DETACTION SYSTEMS MUST BE OPERABLE	●	●	●	●					●	49CFR238	●				●		

VEHICLE TYPE: BLIND TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)									REQUIREMENT	FREQUENCY						
		BTC 200	BTC350	BTC500	BTC600	K.BTC700	K.BTC750	K.BTC767	K.BTC900	BTC1600		DAILY	03 DAY	05 day	30 DAY	180 DAY	1460 DAY	2920 DAY
CB	CHECK ALL WHEEL SENSORS AND CABLING FOR SIGNS OF DAMAGE AND PROPER GAP	●	●	●	●	●	●	●	●	●	49CFR238					●	●	●
CB	INSPECT AND CLEAN ALL JUMPERS AND JUMPER RECEPTACLES	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
CB	REPAIR OR REPLACE AS NEEDED ALL GROUND STRAPS AND CABLES	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
APS	CHECK BATTERY CHARGER FOR PROPER OPERATION AND VOLTAGE SETTING - 72 VDC	●	●	●	●	●	●	●	●	●	49CFR238					◍	◍	◍
CB	480VAC CABLE RECEPTACLES DOES NOT INTERFERE WITH UNCOUPLING LEVER AND THE JUMPER CABLE HEADS ARE PROPERLY SECURED	●	●	●	●					●	49CFR238	●				●		
CB	TEST ALL 480 VAC, M.U. AND SIGNAL CIRCUITS	●	●	●	●	●	●	●	●	●	49CFR238	◍				◍	◍	◍
CB	CHECK ALL SWITCHES, RELAYS, CONTACTORS, SHUNT TRIPS, WIRING CONNECTIONS AND CIRCUIT BREAKERS FOR PROPER POSITIONING AND OPERATIONS, SIGNS OF LOOSENING AND OVERHEATING.	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
CB	REPLACE AS NEEDED BRAKE INDICATOR LIGHTS, CLASS LIGHTS, CROSSING LIGHTS, NUMBER LIGHTS, STEP LIGHTS, EMERGENCY LIGHTS, GLOW STICKS AND GENERAL LIGHTING.	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
CB	TEST WHEEL SLIDE SYSTEM FOR PROPER OPERATION AND SECURE CONTROL BOX	●	●	●	●	●	●	●	●	●	49CFR238					◍	◍	◍
DS	TEST POWER DOOR OPERATION-POWER DOOR EQUIPPED COACHES ONLY	●	●	●	●	●	●	●	●	●	49CFR238	◍				◍	◍	◍
CB	ENSURE ALL ELECTRICAL CABINET SEALS ARE IN GOOD CONDITION	●	●	●	●					●	49CFR238	●				●		
CB	CLEAN AND VACUUM ALL ELECTRICAL LOCKERS.	●	●	●	●	●	●	●	●	●	OEM					●	●	●
HV	CHECK FOR PROPER OPERATION OF H.V.A.C. CONTROLS AND THERMOSTATS	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
HV	CHECK THE EVAPORATOR BLOWER AND CONDENSER FANS FOR PROPER WORKING CONDITION	●	●	●	●	●	●	●	●	●	49CFR238					●	●	●
HV	REPLACE RETURN AIR FILTERS	●	●	●	●	●	●	●	●	●	OEM					●	●	●
HV	INSPECT ENTIRE H.V.A.C. SYSTEM FOR LOOSE OR MISSING COMPONENTS, LEAKS AND SIGNS OF EXCESSIVE VIBRATION	●	●	●	●	●	●	●	●	●	49CFR238					●	●	●
HV	INSPECT COMPRESSOR FOR PROPER OIL LEVEL AND RECEIVER TANK FOR PROPER REFRIGERANT LEVEL	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
CB	TEST HIGH AND LOW VOLTAGE SYSTEMS FOR GROUNDS	●	●	●	●	●	●	●	●	●	49CFR238	◍				◍	◍	◍
APS	CHECK BATTERY CELL VOLTAGE AND RECORD READING ON CRM-22C. FILL CELLS TO FULL MARK. WASH TRAYS, TIGHTEN CONNECTIONS AND GREASE TERMINALS	●	●	●	●	●	●	●	●	●	49CFR238	●				●	●	●
HV	INSPECT AND REPAIR TRAP HEATERS AS NEEDED	●	●	●	●	●	●	●	●	●	OEM					●	●	●
CM	VERIFY PUBLIC ADDRESS, PA AND INTERCOM SYSTEM IS OPERATIONAL	●	●	●	●	●	●	●	●	●	49CFR238	◍				◍	◍	◍

VEHICLE TYPE: BLIND TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)									REQUIREMENT	FREQUENCY						
		BTC 200	BTC350	BTC500	BTC600	K.BTC700	K.BTC750	K.BTC767	K.BTC900	BTC1600		DAILY	03 DAY	05 day	30 DAY	180 DAY	1460 DAY	2920 DAY
AB	4-YR AIR BRAKE COMPONENT CHANGE	●	●	●	●	●	●	●	●	●	49CFR238						●	●
CB	CHANGE 2 BP & 2 MR HOSES (Every 2nd 2 year inspection)	●	●	●	●	●	●	●	●	●	49CFR238						●	●
CB	PERFORM CLASS C VEHICLE CLEAN	●	●	●	●	●	●	●	●	●	MBTA	●						
CB	PERFORM CLASS B VEHICLE CLEAN	●	●	●	●	●	●	●	●	●	MBTA		●					
CB	PERFORM CLASS A VEHICLE CLEAN	●	●	●	●	●	●	●	●	●	MBTA				●	●	●	●
TO	CHECK TOILET DOOR OPERATION. SERVICE (WATER). REPLENISH TOILET AMENITIES AS REQUIRED. REPAIR AS NEEDED TOILET SYSTEM AND OTHER RESTROOM APPARATUS.			●					●		OEM	●				●	●	●
CB	FLUSH AND CLEAN DRAINPAN UNDER EVAPORATOR COILS					●	●	●	●		OEM						●	●
TS	INSPECT ALL GROUND STRAPS					●	●	●	●		49CFR238	●						
TS	ALL DAMPERS ARE PROPERLY SECURED WITH NO LEAKS (CLEARLY DEFINED OIL DROPLETS					●	●	●	●		49CFR238	●						
TS	SECONDARY SUSPENSION MUST NOT BE OVR INFLAYTED OR SHOW SIGNS OF EXCESSIVE WEAR					●	●	●	●		49CFR238	●						
TS	BOLSTER ANCHOR/RADIUS RIMS MUST NOT BE LOSE OR MISSING					●	●	●	●		49CFR238	●						
TS	OUTER COIL SPRINGS MUST NOT BE BROKEN OR DISPLAY WAR MARKS ON COILS					●	●	●	●		49CFR238	●						
TS	INSPECT ROLLER BEARINGS FOR EXCESSIVES GREASE LEAKAGE. BEARING END CAP SCREWS MUST NOT BE LOSE OR MISSING. BEARING END CAP MUST NOT BE CRACKED, BROKEN OR MISSING. BEARING SCREW LOCKING PLATE IS IN GOOD CONDITION AND PROPERLY APPLIED.					●	●	●	●		49CFR238	●						
TS	INSPECT HOT BEARING WARNING DEVICE. ENSURE GREASE SEALS ARE NOT LOOSE, COCKED OR MISALIGNED AND BEARING ADAPTORS ARE IN PROPER POSITION FOR SERVICE					●	●	●	●		49CFR238	●						
BS	CONDUCT 5 DAY BRAKE DISC INSPECTION					●	●	●	●		49CFR238			●				
TS	INSPECT KAWASAKI BRAKE DISCS FOR DEFECTS AND EXCESSIVE WEAR. SLACK ADJUSTERS MUST BE OPERATIONAL					●	●	●	●		49CFR238	●				●	●	●
TS	COUPLER SHANK PIN RETAINING KEY MUST NOT BE CRAKED OR WORN MORE THAN 25%					●	●	●	●		49CFR238	●						
TS	LOCK LIFT ASSEMBLY MUST HAVE PROPER ROD EYE CLEARANCE WHEN COUPLER LOCKED AND CENTERED					●	●	●	●		49CFR238	●						
TS	INSPECT DRAWBAR CONNECTION FOR DEFECTS					●	●	●	●		49CFR238	●						

VEHICLE TYPE: BLIND TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)									REQUIREMENT	FREQUENCY						
		BTC 200	BTC350	BTC500	BTC600	K.BTC700	K.BTC750	K.BTC767	K.BTC900	BTC1600		DAILY	03 DAY	05 day	30 DAY	180 DAY	1460 DAY	2920 DAY
TS	4 YEAR TRUCK OVERHAUL +BRAKES (MINUS RADIUS ARM RUBBERS, DISC BRAKE ACTUATOR BUSHING, AIR BAGS, LATERIAL STOPS PRIMARY SPRINGS, BOLSTER WEAR PLATE AND PAD					●	●	●	●		49CFR238						●	
TS	4 YEAR TRUCK OVERHAUL +BRAKES (INCLUDING RADIUS ARM RUBBERS, DISC BRAKE ACTUATOR BUSHING, AIR BAGS, LATERIAL STOPS PRIMARY SPRINGS, BOLSTER WEAR PLATE AND PAD					●	●	●	●		49CFR238							●
CB	ENSURE FLOORS ARE FREE OF TRIPPING AND FIRE HAZARDS. RECTIFY AS REQUIRED					●	●	●	●		49CFR238	●						
CB	VERIFY VESTIBULE STEP ILLUMINATION					●	●	●	●		49CFR238	●						
TS	LUBRICATE THE ROTARY SHOCK LINKAGES ON KAWASAKI COACHES WITH LUBRIKO M-31 GREASE OR ITS EQUIVALENT (EP-2)					●	●	●	●		49CFR238							
CB	EMERGENCY EXIT IDENTIFICATIONS MUST NOT BE MISSING. OPERATING HANDLES MUST NOT BE BROKEN OR IMPROPERLY INSTALLED					●	●	●	●			●						
CB	SAMPLE REMOVAL OF EMERGENCY EXIT WINDOWS					●	●	●	●			●				●		
TS	HOT JOURNAL AND WHEEL SLIDE DETECTION SYSTEMS MUST BE OPERABLE					●	●	●	●			●						
CB	480VAC CABLE RECEPTACLES DOES NOT INTERFERE WITH UNCOUPLING LEVER AND THE JUMPER CABLE HEADS ARE PROPERLY SECURED					●	●	●	●		49CFR238	●						
CB	ENSURE ALL ELECTRICAL CABINET SEALS ARE IN GOOD CONDITION					●	●	●	●		49CFR238	●						

MBTA COMMUTER RAIL
EQUIPMENT MAINTENANCE PLAN

Vehicle Location KEY:			
CARBODY EXTERIOR AND INTERIOR:	CB	AIR SYSTEM:	AS
HVAC SYSTEM:	HV	AUXILIARY POWER SUPPLY:	APS
TRUCK SUSPENSION/COUPLER DRAFT GEAR:	TS	COMMUNICATION:	CM
BRAKE SYSTEM:	BS	CAB CONTROLS:	CC
EVENT/ALERTER SYSTEM:	EV	AIR BRAKE SYSTEM:	AB
DOOR SYSTEM:	DS	POSITIVE TRAIN CONTROL / ATC / ACSES:	PTC

COLOR KEY:	
INSPECTION:	●
REPLACE:	●
CLEAN:	●
LUBRICATE:	
TEST:	◍

VEHICLE TYPE: OVERHAULED KAWASAKI COACHES - CTC & BTC **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	K.CTC 1700	K.BTC700	REQUIREMENT	FREQUENCY								
					DAILY	03 DAY	05 DAY	30 DAY	45 DAY	92 DAY	180 DAY	365 DAY	730 DAY	1460 DAY	2920 DAY
AB	4-YR AIR BRAKE COMPONENT CHANGE		●	49CFR238										●	●
AB	CTC 2-YR AIR BRAKE COMPONENT CHANGE	●		49CFR238									●	●	
AB	CTC 1-YR AIR BRAKE COMPONENT CHANGE	●		49CFR238								●			
AB	TEST ALL EMERGENCY VALVES (CONDUCTORS VALVES)	●		49CFR238	◍					◍		◍	◍	◍	◍
AB	TEST ALL EMERGENCY VALVES (CONDUCTORS VALVES)		●	49CFR238	◍						◍			◍	◍
AS	TEST AIR BRAKE, HORN, BELL, SANDERS AND WINDSHIELD WIPERS	●		49CFR238	◍					◍		◍	◍	◍	◍
AS	TEST AIR GAUGES	●		49CFR238						◍		◍	◍	◍	◍
AS	TEST AIR GAUGES		●	49CFR238							◍			◍	◍
APS	CHECK BATTERY CELL VOLTAGE AND RECORD READING ON CRM-22C. FILL CELLS TO FULL MARK. WASH TRAYS, TIGHTEN CONNECTIONS AND GREASE TERMINALS	●		49CFR238	●					●		●	●	●	●
APS	CHECK BATTERY CHARGER FOR PROPER OPERATION AND VOLTAGE SETTING - 72 VDC	●		49CFR238						◍		◍	◍	◍	◍
APS	FILTER SOC CHANGE OUT [AIR BRAKE]	●		OEM						●		●	●	●	●
APS	FILTER SOC CHANGE OUT [AIR BRAKE]		●	OEM							●			●	●
BS	CONDUCT 5 DAY BRAKE DISC INSPECTION	●	●	49CFR238			●								
BS	INSPECT ALL BRAKE EQUIP INCL. VALVES TREAD BRAKES FOR PROPER OPERATION, SECUREMENT OF ALL BOLTS AND BUSHINGS AND COTTER KEYS	●		49CFR238	●					●		●	●	●	●
BS	INSPECT ALL BRAKE EQUIP INCL. VALVES TREAD BRAKES FOR PROPER OPERATION, SECUREMENT OF ALL BOLTS AND BUSHINGS AND COTTER KEYS		●	49CFR238	●						●			●	●
BS	UNDERTAKE CLASS 1 AIR BRAKE INSPECTION AND BRAKE TEST	●	●	49CFR238	◍										
CC	TEST THE CAB SIGNAL SYSTEM	●		49CFR238	◍				◍	◍		◍	◍	◍	◍
CB	480VAC CABLE RECEPTACLES DOES NOT INTERFERE WITH UNCOUPLING LEVER AND THE JUMPER CABLE HEADS ARE PROPERLY SECURED	●	●	49CFR238	●										
CB	CHANGE 2 BP & 2 MR HOSES (Every 2nd 2 year inspection)	●	●	49CFR238										●	●
CB	CHECK ALL SWITCHES, RELAYS, CONTACTORS, SHUNT TRIPS, WIRING CONNECTIONS AND CIRCUIT BREAKERS FOR PROPER POSITIONING AND OPERATIONS, SIGNS OF LOOSENING AND OVERHEATING.	●		49CFR238	●					●		●	●	●	●
CB	CHECK ALL SWITCHES, RELAYS, CONTACTORS, SHUNT TRIPS, WIRING CONNECTIONS AND CIRCUIT BREAKERS FOR PROPER POSITIONING AND OPERATIONS, SIGNS OF LOOSENING AND OVERHEATING.		●	49CFR238	●						●			●	●
CB	CHECK ALL WHEEL SENSORS AND CABLING FOR SIGNS OF DAMAGE AND PROPER GAP	●		49CFR238						●		●	●	●	●
CB	CHECK ALL WHEEL SENSORS AND CABLING FOR SIGNS OF DAMAGE AND PROPER GAP		●	49CFR238							●			●	●
CB	CHECK FOR FIRST AID KIT AND REPLENISH AS NECESSARY	●		49CFR238	●					●		●	●	●	●
CB	CHECK FOR FIRST AID KIT AND REPLENISH AS NECESSARY		●	49CFR238	●						●			●	●
CB	CHECK FOR PROPER EMERGENCY SIGNAGE INTERIOR AND EXTERIOR AND HIGH VOLTAGE SIGNS.	●		49CFR238	●					●		●	●	●	●
CB	CHECK FOR PROPER EMERGENCY SIGNAGE INTERIOR AND EXTERIOR AND HIGH VOLTAGE SIGNS.		●	49CFR238	●						●			●	●
CB	CHECK UNDER CAR HIGH AND LOW VOLTAGE WIRING AND CABLING AND ELECTRICAL EQUIPMENT FOR SIGNS OF DAMAGE OR OVERHEATING	●		49CFR238						●		●	●	●	●
CB	CHECK UNDER CAR HIGH AND LOW VOLTAGE WIRING AND CABLING AND ELECTRICAL EQUIPMENT FOR SIGNS OF DAMAGE OR OVERHEATING		●	49CFR238							●			●	●
CB	CHECK UNDERCAR PIPING FOR SIGNS OF LOOSENING AND DAMAGE	●		49CFR238	●					●		●	●	●	●
CB	CHECK UNDERCAR PIPING FOR SIGNS OF LOOSENING AND DAMAGE		●	49CFR238	●						●			●	●
CB	CHECK WINDSHIELD WASHER FLUID TO THE FULL MARK AND TOP UP AS REQUIRED	●		49CFR238	●										
CB	CLEAN AND VACUUM ALL ELECTRICAL LOCKERS.	●		OEM						●		●	●	●	●
CB	CLEAN AND VACUUM ALL ELECTRICAL LOCKERS.		●	OEM							●			●	●
CB	CLEAN FRESH AIR INTAKE SCREEN AT BOTH ENDS	●		49CFR238						◍		◍	◍	◍	◍
CB	CLEAN FRESH AIR INTAKE SCREEN AT BOTH ENDS		●	49CFR238							◍			◍	◍
CB	EMERGENCY EXIT IDENTIFICATIONS MUST NOT BE MISSING. OPERATING HANDLES MUST NOT BE BROKEN OR IMPROPERLY INSTALLED	●	●	49CFR238	●										
CB	ENSURE ALL ELECTRICAL CABINET SEALS ARE IN GOOD CONDITION	●	●	49CFR238	●										
CB	ENSURE FLOORS ARE FREE OF TRIPPING AND FIRE HAZARDS. RECTIFY AS REQUIRED	●	●	49CFR238	●										
CB	FLUSH AND CLEAN DRAINPAN UNDER EVAPORATOR COILS	●		OEM								●	●	●	●
CB	FLUSH AND CLEAN DRAINPAN UNDER EVAPORATOR COILS		●	OEM										●	●
CB	INSPECT ALL PIPING, VALVES, HOSES & FITTINGS THAT SHOW SIGNS OF LEAKS, ABRASIONS, CRACKS, HOLES, HAVE MISSING OR BROKEN COMPONENTS OR ARE BELIEVED TO HAVE RESTRICTIONS.	●		49CFR238						●		●	●	●	●

VEHICLE LOCATION	TASK DESCRIPTION	K-CTC-1700	K-BTC700	REQUIREMENT	FREQUENCY										
					DAILY	03 DAY	05 DAY	30 DAY	45 DAY	92 DAY	180 DAY	365 DAY	730 DAY	1460 DAY	2920 DAY
CB	INSPECT ALL PIPING, VALVES, HOSES & FITTINGS THAT SHOW SIGNS OF LEAKS, ABRASIONS, CRACKS, HOLES, HAVE MISSING OR BROKEN COMPONENTS OR ARE BELIEVED TO HAVE RESTRICTIONS.		●	49CFR238							●			●	●
CB	INSPECT ALL SEATS, SEAT CUSHIONS AND SEAT ATTACHMENTS FOR BROKEN, LOOSE, OR SHARP EDGES	●		49CFR238	●					●		●	●	●	●
CB	INSPECT ALL SEATS, SEAT CUSHIONS AND SEAT ATTACHMENTS FOR BROKEN, LOOSE, OR SHARP EDGES		●	49CFR238	●						●			●	●
CB	INSPECT ALL UNDERSIDE CONDUIT AND ENCLOSURES FOR SIGNS OF DAMAGE AND SEAL INTEGRITY	●		49CFR238						●		●	●	●	●
CB	INSPECT ALL UNDERSIDE CONDUIT AND ENCLOSURES FOR SIGNS OF DAMAGE AND SEAL INTEGRITY		●	49CFR238							●			●	●
CB	INSPECT AND CLEAN ALL JUMPERS AND JUMPER RECEPTACLES	●		49CFR238	●					●		●	●	●	●
CB	INSPECT AND CLEAN ALL JUMPERS AND JUMPER RECEPTACLES		●	49CFR238	●						●			●	●
CB	INSPECT AND REPAIR TRAP HEATERS AS NEEDED		●	OEM							●			●	●
CB	INSPECT AND TOP UP SAND LEVEL	●		49CFR238	●										
CB	INSPECT ENTIRE CAR BODY FOR LOOSE , DEFECTIVE AND MISSING PARTS, TO INCLUDE LUGGAGE RACKS, HANDHOLDS (CHECK 2IN CLEARANCE) SEATS, SEAT ATTACHMENTS AND TRAP DOORS	●		49CFR238	●					●		●	●	●	●
CB	INSPECT ENTIRE CAR BODY FOR LOOSE , DEFECTIVE AND MISSING PARTS, TO INCLUDE LUGGAGE RACKS, HANDHOLDS (CHECK 2IN CLEARANCE) SEATS, SEAT ATTACHMENTS AND TRAP DOORS		●	49CFR238	●						●			●	●
CB	INSPECT FIRE EXTINGUISHER GAUGE AND DATE	●		49CFR238	●					●		●	●	●	●
CB	INSPECT FIRE EXTINGUISHER GAUGE AND DATE		●	49CFR238	●						●			●	●
CB	INSPECT FOR EMERGENCY PRY BAR AND FLAGGING KIT IN PLACE	●		49CFR238	●					●		●	●	●	●
CB	INSPECT FOR EMERGENCY PRY BAR AND FLAGGING KIT IN PLACE		●	49CFR238	●						●			●	●
CB	LUBRICATE LATERAL SHOCK ABSORBER ROD ENDS	●		49CFR238											
CB	LUBRICATE LATERAL SHOCK ABSORBER ROD ENDS		●	49CFR238											
CB	REMOVE AND REPLACE BELL CARTRIDGES AND WINDSHIELD WIPERS	●		OEM						●		●	●	●	●
CB	REMOVE CAB CARD AND REPORT ALL TEST DATES. REAPPLY CAB CARD AT CONCLUSION OF INSPECTION	●		49CFR238						●		●	●	●	●
CB	REPAIR ANY TORN OR MISSING PIPE INSULATION	●		MBCR						●		●	●	●	●
CB	REPAIR ANY TORN OR MISSING PIPE INSULATION		●	MBCR							●			●	●
CB	REPAIR OR REPLACE AS NEEDED ALL GROUND STRAPS AND CABLES	●		49CFR238	●					●		●	●	●	●
CB	REPAIR OR REPLACE AS NEEDED ALL GROUND STRAPS AND CABLES		●	49CFR238	●						●			●	●
CB	REPLACE AS NEEDED BRAKE INDICATOR LIGHTS, CLASS LIGHTS, CROSSING LIGHTS, NUMBER LIGHTS, STEP LIGHTS, EMERGENCY LIGHTS, GLOW STICKS AND GENERAL LIGHTING.		●	49CFR238	●						●			●	●
CB	REPLACE AS NEEDED HEAD LIGHTS, BRAKE INDICATOR LIGHTS, CLASS LIGHTS, CROSSING LIGHTS, NUMBER LIGHTS, STEP LIGHTS, EMERGENCY LIGHTS, GLOW STICKS AND GENERAL LIGHTING.	●		49CFR238	●					●		●	●	●	●
CB	SAMPLE REMOVAL OF EMERGENCY EXIT WINDOWS	●		49CFR238	●					●					
CB	SAMPLE REMOVAL OF EMERGENCY EXIT WINDOWS		●	49CFR238	●						●				
CB	TEST ALL 480 VAC, M.U. AND SIGNAL CIRCUITS	●		49CFR238	◐					◐		◐	◐	◐	◐
CB	TEST ALL 480 VAC, M.U. AND SIGNAL CIRCUITS		●	49CFR238	◐						◐			◐	◐
CB	TEST AND LUBRICATE THE HANDBRAKE	●		49CFR238	◐					◐		◐	◐	◐	◐
CB	TEST AND LUBRICATE THE HANDBRAKE		●	49CFR238	◐						◐			◐	◐
CB	TEST HIGH AND LOW VOLTAGE SYSTEMS FOR GROUNDS	●		49CFR238	◐					◐		◐	◐	◐	◐
CB	TEST HIGH AND LOW VOLTAGE SYSTEMS FOR GROUNDS		●	49CFR238	◐						◐			◐	◐
CB	TEST SANDER MAGNET VALVE	●		49CFR238						◐		◐	◐	◐	◐
CB	TEST SANDER SYSTEM AND ITS COMPONENTS AND REPAIR AS NEEDED	●		49CFR238	●					●		●	●	●	●
CB	TEST WHEEL SLIDE SYSTEM FOR PROPER OPERATION AND SECURE CONTROL BOX	●		49CFR238						◐		◐	◐	◐	◐
CB	TEST WHEEL SLIDE SYSTEM FOR PROPER OPERATION AND SECURE CONTROL BOX		●	49CFR238							◐			◐	◐
CB	TEST WINDSHIELD DEFOGGER, GAUGE LIGHTS AND INDICATOR LIGHTS	●		49CFR238						◐		◐	◐	◐	◐
CB	PERFORM CLASS A VEHICLE CLEAN	●		MBTA				◐		●		●	●	●	●
CB	PERFORM CLASS A VEHICLE CLEAN		●	MBTA				◐			●			●	●
CB	PERFORM CLASS B VEHICLE CLEAN	●	●	MBTA		◐									
CB	PERFORM CLASS C VEHICLE CLEAN	●	●	MBTA	●										
CB	VERIFY PROPER OPERATION OF EMERGENCY EXIT WINDOW LOCATION AND RECORD _____, _____	●		CFR238						●		●	●	●	●
CB	VERIFY PROPER OPERATION OF EMERGENCY EXIT WINDOW LOCATION AND RECORD _____, _____		●	CFR238							●			●	●
CB	VERIFY VESTIBULE STEP ILLUMINATION	●	●	49CFR238	●										
CM	VERIFY PUBLIC ADDRESS, PA AND INTERCOM SYSTEM IS OPERATIONAL	●		49CFR238	◐					◐		◐	◐	◐	◐
CM	VERIFY PUBLIC ADDRESS, PA AND INTERCOM SYSTEM IS OPERATIONAL		●	49CFR238	◐						◐			◐	◐
CM	VERIFY RADIO IS OPERATING CORRECTLY	●		49CFR238	◐										

VEHICLE TYPE: OVERHAULED KAWASAKI COACHES - CTC & BTC **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	K.CTC 1700	K.BTC700	REQUIREMENT	FREQUENCY									
					DAILY	03 DAY	05 DAY	30 DAY	45 DAY	92 DAY	180 DAY	365 DAY	730 DAY	1460 DAY	2920 DAY
DS	LUBRICATE ALL MOVEABLE PARTS INCLUDING DOOR TRACKS AND ROLLERS WITH DRY GRAPHITE	●		49CFR238											
DS	LUBRICATE ALL MOVEABLE PARTS INCLUDING DOOR TRACKS AND ROLLERS WITH DRY GRAPHITE		●	49CFR238											
DS	TEST POWER DOOR OPERATION-POWER DOOR EQUIPPED COACHES ONLY	●		49CFR238	◐					◐		◐	◐	◐	◐
DS	TEST POWER DOOR OPERATION-POWER DOOR EQUIPPED COACHES ONLY		●	49CFR238	◐						◐			◐	◐
EV	ALERTER AND SPEEDOMETER OVERSPEED TRIP MUST BE FUNCTIONAL AND PROPERLY SEALED	●		49CFR238	◐										
EV	ATC AND PTC EQUIPMENT MUST BE FUNCTIONAL AND PROPERLY SEALED	●		49CFR238	◐										
EV	CHANGE & DATE SUPPRESSION PRESS SWITCH	●		49CFR238									●	●	●
EV	TEST & DATE ONBOARD TEST PRESS SWITCH (20 INCREASING)	●		49CFR238									◐	◐	◐
EV	TEST & DATE STOP INSURING PRESS SWITCH (60 DECREASING)	●		49CFR238									◐	◐	◐
EV	TEST THE OPERATION OF THE EVENT RECORDER INCLUDING ACCURATE DATE AND TIME STAMP, AND SPEED INDICATOR	●		49CFR238	◐							◐	◐	◐	◐
EV	TRIAN OVER -SPEED TRIP MUST BE FUNCTIONAL AND PROPERLY SEALED	●		49CFR238	◐										
HV	CHECK FOR PROPER OPERATION OF H.V.A.C. CONTROLS AND THERMOSTATS	●		49CFR238	●					●		●	●	●	●
HV	CHECK FOR PROPER OPERATION OF H.V.A.C. CONTROLS AND THERMOSTATS		●	49CFR238	●						●			●	●
HV	CHECK OPERATION OF CAB HEATERS	●		OEM						◐		◐	◐	◐	◐
HV	CHECK THE EVAPORATOR BLOWER AND CONDENSER FANS FOR PROPER WORKING CONDITION	●		49CFR238						●		●	●	●	●
HV	CHECK THE EVAPORATOR BLOWER AND CONDENSER FANS FOR PROPER WORKING CONDITION		●	49CFR238							●			●	●
HV	CLEAN RETURN AIR FILTER GRILLS	●		49CFR238	●					●		●	●	●	●
HV	CLEAN RETURN AIR FILTER GRILLS		●	49CFR238	●						●			●	●
HV	CLEAN SURFACE OF CONDENSER COILS	●		OEM						●		●	●	●	●
HV	CLEAN SURFACE OF CONDENSER COILS		●	OEM							●			●	●
HV	INSPECT AND REPAIR TRAP HEATERS AS NEEDED	●		OEM						●		●	●	●	●
HV	INSPECT COMPRESSOR FOR PROPER OIL LEVEL AND RECEIVER TANK FOR PROPER REFRIGERANT LEVEL	●		49CFR238	●					●		●	●	●	●
HV	INSPECT COMPRESSOR FOR PROPER OIL LEVEL AND RECEIVER TANK FOR PROPER REFRIGERANT LEVEL		●	49CFR238	●						●			●	●
HV	INSPECT ENTIRE H.V.A.C. SYSTEM FOR LOOSE OR MISSING COMPONENTS, LEAKS AND SIGNS OF EXCESSIVE VIBRATION	●		49CFR238						●		●	●	●	●
HV	INSPECT ENTIRE H.V.A.C. SYSTEM FOR LOOSE OR MISSING COMPONENTS, LEAKS AND SIGNS OF EXCESSIVE VIBRATION		●	49CFR238							●			●	●
HV	REPLACE BAD-ODOR SPONGE AT BOTH ENDS OF CAR	●		OEM						●		●	●	●	●
HV	REPLACE BAD-ODOR SPONGE AT BOTH ENDS OF CAR		●	OEM							●			●	●
HV	REPLACE COMPRESSOR, FILTER DRYER CORE, SUCTION GASKET, DISCHARGE GASKET, COMPRESSOR OIL SERVICE VALVE, HEATR FAN	●	●	49CFR238											●
HV	REPLACE RETURN AIR FILTERS	●		OEM						●		●	●	●	●
HV	REPLACE RETURN AIR FILTERS		●	OEM							●			●	●
PTC	TEST THE ACSES SYSTEM	●		49CFR238						◐		◐	◐	◐	◐
TS	4 YEAR TRUCK OVERHAUL +BRAKES (INCLUDING RADIUS ARM RUBBERS, DISC BRAKE ACTUATOR BUSHING, AIR BAGS, LATERIAL STOPS PRIMARY SPRINGS, BOLSTER WEAR PLATE AND PAD	●	●	49CFR238											●
TS	4 YEAR TRUCK OVERHAUL +BRAKES (MINUS RADIUS ARM RUBBERS, DISC BRAKE ACTUATOR BUSHING, AIR BAGS, LATERIAL STOPS PRIMARY SPRINGS, BOLSTER WEAR PLATE AND PAD	●	●	49CFR238										●	
TS	ALL DAMPERS ARE PROPERLY SECURED WITH NO LEAKS (CLEARLY DEFINED OIL DROPLETS)	●	●	49CFR238	●										
TS	BOLSTER ANCHOR/RADIUS RIMS MUST NOT BE LOSE OR MISSING	●	●	49CFR238	●										
TS	BRAKE SHOES MUST NOT BE LOOSE, MISSING OR IMPROPRLY ALIGNED WITH BRAKING SURFACES.SHOES MUST NOT BEWORN TO A THICKNESS OF 3/8 IN OR LESS AT THINEST POINT. CHANGE AS REQUIRED.	●		49CFR238	●					●		●	●	●	●
TS	BRAKE SHOES MUST NOT BE LOOSE, MISSING OR IMPROPRLY ALIGNED WITH BRAKING SURFACES.SHOES MUST NOT BEWORN TO A THICKNESS OF 3/8 IN OR LESS AT THINEST POINT. CHANGE AS REQUIRED.		●	49CFR238	●						●			●	●
TS	COUPLER SHANK PIN RETAINING KEY MUST NOT BE CRAKED OR WORN MORE THAN 25%	●	●	49CFR238	●										
TS	HOT JOURNAL AND WHEEL SLIDE DETACTION SYSTEMS MUST BE OPERABLE	●	●	49CFR238	●										
TS	INSPECT ALL GROUND STRAPS	●	●	49CFR238	●										
TS	INSPECT COUPLERS AND COUPLER PARTS FOR WEAR, HEIGHT AND CONDITION RECORD ON CRM-3A (COUPLER HEAD AND SHANK MUST NOT HAVE CRACKS, BREAKS OR BE BENT. UNCOUPLING LEVERS ARE IN GOOD CONDITION, FREE OF OBSTRUCTION AND SECURED IN THE LOCKED POSITION. TELL-TALE RECESS AND HOLE FULLY VISIBLE	●		49CFR238	●					●		●	●	●	●

VEHICLE TYPE: OVERHAULED KAWASAKI COACHES - CTC & BTC **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	K.CTC 1700	K.BTC700	REQUIREMENT	FREQUENCY										
					DAILY	03 DAY	05 DAY	30 DAY	45 DAY	92 DAY	180 DAY	365 DAY	730 DAY	1460 DAY	2920 DAY
TS	INSPECT COUPLERS AND COUPLER PARTS FOR WEAR, HEIGHT AND CONDITION RECORD ON CRM-3A (COUPLER HEAD AND SHANK MUST NOT HAVE CRACKS, BREAKS OR BE BENT. UNCOUPLING LEVERS ARE IN GOOD CONDITION, FREE OF OBSTRUCTION AND SECURED IN THE LOCKED POSITION. TELL-TALE RECESS AND HOLE FULLY VISIBLE		●	49CFR238	●						●			●	●
TS	INSPECT DRAFT GEAR - TIGHTNESS IN POCKET, CRACKING, OTHER DAMAGES	●		49CFR238						●		●	●	●	●
TS	INSPECT DRAFT GEAR - TIGHTNESS IN POCKET, CRACKING, OTHER DAMAGES		●	49CFR238							●			●	●
TS	INSPECT DRAWBAR CONNECTION FOR DEFECTS	●	●	49CFR238	●										
TS	INSPECT HOT BEARING WARNING DEVICE. ENSURE GREASE SEALS ARE NOT LOOSE, COCKED OR MISALIGNED AND BEARING ADAPTORS ARE IN PROPER POSITION FOR SERVICE	●	●	49CFR238	●										
TS	INSPECT KAWASAKI BRAKE DISCS FOR DEFECTS AND EXCESSIVE WEAR. SLACK ADJUSTERS MUST BE OPERATIONAL	●		49CFR238	●					●		●	●	●	●
TS	INSPECT KAWASAKI BRAKE DISCS FOR DEFECTS AND EXCESSIVE WEAR. SLACK ADJUSTERS MUST BE OPERATIONAL		●	49CFR238	●						●			●	●
TS	INSPECT ROLLER BEARINGS FOR EXCESSIVES GREASE LEAKAGE. BEARING END CAP SCREWS MUST NOT BE LOSE OR MISSING. BEARING END CAP MUST NOT BE CRACKED, BROKEN OR MISSING. BEARING SCREW LOCKING PLATE IS IN GOOD CONDITION AND PROPERLY APPLIED.	●	●	49CFR238	●										
TS	INSPECT TRUCK FRAME AND TRUCK-MOUNTED COMPONENTS FOR PROPER SECUREMENT AND EXCESSIVE WEAR - INCLUDING LEVERS, RODS, BRAKE BEAMS OR HANGERS, EQUALISERS, PEDASTAL LINER TIE STRAPS AND SAFETY WIRES	●		49CFR238	●					●		●	●	●	●
TS	INSPECT TRUCK FRAME AND TRUCK-MOUNTED COMPONENTS FOR PROPER SECUREMENT AND EXCESSIVE WEAR - INCLUDING LEVERS, RODS, BRAKE BEAMS OR HANGERS, EQUALISERS, PEDASTAL LINER TIE STRAPS AND SAFETY WIRES		●	49CFR238	●						●			●	●
TS	INSPECT WHEELS AXLES FOR CRACKS, CHIPS, GOUGES AND BREAKS.MEASURE WHEEL FLANGE AND RIM THICKNESS FOR COMPLIANCE. CHECK FOR OVERHEATING OR DISCOLORATION AND COMPLETE WHEEL REPORT	●		49CFR238	●					●		●	●	●	●
TS	INSPECT WHEELS AXLES FOR CRACKS, CHIPS, GOUGES AND BREAKS.MEASURE WHEEL FLANGE AND RIM THICKNESS FOR COMPLIANCE. CHECK FOR OVERHEATING OR DISCOLORATION AND COMPLETE WHEEL REPORT		●	49CFR238	●						●			●	●
TS	LOCK LIFT ASSEMBLY MUST HAVE PROPER ROD EYE CLEARANCE WHEN COUPLER LOCKED AND CENTERED	●	●	49CFR238	●										
TS	LUBRICATE THE ROTARY SHOCK LINKAGES ON KAWASAKI COACHES WITH LUBRIKO M-31 GREASE OR ITS EQUIVALENT (EP-2)	●		49CFR238											
TS	LUBRICATE THE ROTARY SHOCK LINKAGES ON KAWASAKI COACHES WITH LUBRIKO M-31 GREASE OR ITS EQUIVALENT (EP-2)		●	49CFR238											
TS	MEASURE PRIMARY SPRING HEIGHT AND RECORD AVG FOR EACH TRUCK.	●		49CFR238						●		●	●	●	●
TS	MEASURE PRIMARY SPRING HEIGHT AND RECORD AVG FOR EACH TRUCK.		●	49CFR238							●			●	●
TS	OUTER COIL SPRINGS MUST NOT BE BROKEN OR DISPLAY WAR MARKS ON COILS	●	●	49CFR238	●										
TS	SECONDARY SUSPENSION MUST NOT BE OVR INFLAYTED OR SHOW SIGNS OF EXCESSIVE WEAR	●	●	49CFR238	●										
TS	SIDE BEARING ASSEMBLIES MUST HAVE CORRECT CLEARANCE	●	●	49CFR238	●										

MBTA COMMUTER RAIL
EQUIPMENT MAINTENANCE PLAN

SERIES: ROTEM 800 & 1800 SERIES

Vehicle Location KEY:

CAR SYSTEM:	CB	COMMUNICATION SYSTEM:	CM
TRUCK SYSTEM:	TS	BRAKE SYSTEM:	BS
COUPLER SYSTEM:	CP	TOILET MODULE:	TM
ELECTRICAL DISTRIBUTION SYSTEM:	EL	CAB SIGNAL/ATC/ACSES:	PTC
LIGHTING SYSTEM:	LT	EVENT RECORDER/ALERTER SYSTEM:	EV
DOOR SYSTEM:	DS	OPERATOR DISPLAY SYSTEM:	CC
HVAC SYSTEM:	HV	CARBODY EXTERIOR AND INTERIOR:	CB

COLOR KEY:

INSPECTION:	●
REPLACE:	●
CLEAN:	●
LUBRICATE:	
TEST:	●
DEVIATION FROM OEM MANUAL DUE TO OMMISSION OR ERROR:	■

VEHICLE TYPE: BLIND TRAILER COACH & CAB TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	VEHICLE TYPE		REQUIREMENT	Daily	03 DAYS	05 DAYS	30 Days	60 Days	90 Days	120 Days	180 Days	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	8 YEAR	9 YEAR	10 YEAR	12 YEAR	15 YEAR
		CTC	BTC																				
CB	CAR EXTERIOR AND STRUCTURE	●	●	49CFR238	●																		
CB	CAR EXTERIOR AND STRUCTURE	●	●	OEM	●																		
CB	UNDERFLOOR EQUIPMENT	●	●	49CFR238	●																		
CB	SAFETY GATE	●	●	49CFR238	●																		
CB	INSPECT AND CLEAN WINDSHIELD. REPAIR AS REQUIRED	●		49CFR238	●																		
CB	INSPECT WINDSHIELD WIPER SYSTEM	●		49CFR238	●																		
CB	INSPECT AND CLEAN DESTINATION SIGN WINDOW	●		49CFR238	●																		
CB	INSPECT NUMBER BOARD WINDOW	●	●	49CFR238	●																		
CB	TEST AIR HORN	●		49CFR238	⊛																		
CB	TEST ELECTRIC BELL	●		49CFR238	⊛																		
CB	INSPECT FLAG BRACKET	●	●	49CFR238	●																		
CB	INSPECT EXTERIOR HANDHOLDS	●	●	49CFR238	●																		
CB	CLEAN EXTERIOR HANDHOLDS	●	●	OEM	●																		
CB	INSPECT REAR VIEW MIRROR	●		OEM	●																		
CB	INSPECT EXTERIOR PAINT	●	●	OEM	●																		
CB	INSPECT EXTERIOR EMERGENCY SIGNAGE	●	●	49CFR238	●																		
CB	INSPECT AND CLEAN PASSENGER WINDOWS. REPAIR AS REQUIRED	●	●	49CFR238	●																		
CB	INSPECT PASSENGER WINDOWS. REPAIR AS REQUIRED	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
CB	INSPECT LOW LOCATION EXIT PATH MARKING	●	●	49CFR238	●																		
CB	INSPECT AND CLEAN PASSENGER SEATING. REPAIR AS REQUIRED	●	●	49CFR238	●																		
CB	INSPECT AND CLEAN INTERIOR HANDHOLDS	●	●	49CFR238	●																		
CB	INSPECT AND CLEAN INTERIOR PANELS (SIDEWALL CEILING AND END). CARRY OUT REPAIRS AS REQUIRED	●	●	49CFR238	●																		
CB	INSPECT STEP WELL AND TRAP DOOR	●	●	49CFR238	●																		
CB	INSPECT AND CLEAN WORK TABLE	●	●	OEM	⊛																		
CB	INSPECT AND CLEAN FLOOR COVERING	●	●	OEM	⊛																		
CB	INSPECT EMERGENCY EQUIPMENT	●	●	49CFR238	●																		
CB	INSPECT CAB SEAT	●		OEM	●																		
CB	INSPECT AND LUBRICATE CAB SEAT	●		OEM									●	●	●	●	●	●	●	●	●	●	●
CB	INSPECT HANDBRAKE	●	●	OEM	●																		
CB	INSPECT INTERIOR SIGNAGE	●	●	49CFR238	●																		
CB	INSPECT DIAPHRAGM	●	●	OEM					●		●	●	●	●	●	●	●	●	●	●	●	●	●
CB	INSPECT PASSENGER WINDOWS	●	●	OEM								●	●	●	●	●	●	●	●	●	●	●	●
CB	TEST LOW LOCATION EXIT PATH MARKING	●	●	OEM									⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛	⊛
CB	CHECK FIRE EXTINGUISHER CONDITION AND DATE	●	●	49CFR238	⊛																		
CB	RECERTIFY FIRE EXTINGUISHER	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
CB	LUBRICATE CAB SEAT. REPAIR AS REQUIRED	●		OEM																			
TS	INSPECT TRUCK ASSEMBLY	●	●	49CFR238	●																		
TS	INSPECT BEARINGS	●	●	49CFR238	●																		
TS	INSPECT PRIMARY SUSPENSION ASSEMBLY	●	●	49CFR238	●																		
TS	INSPECT SECONDARY SUSPENSION ASSEMBLY	●	●	49CFR238	●																		
TS	INSPECT COMPENSATION VALVE	●	●	49CFR238	●																		
TS	INSPECT LEVELLING VALVE	●	●	49CFR238	●																		
TS	INSPECT DISC BRAKE UNIT	●	●	49CFR238	●																		
TS	INSPECT TREAD BRAKE UNIT	●	●	49CFR238	●																		
TS	INSPECT AXLES	●	●	49CFR238	●																		
TS	INSPECT WHEELS	●	●	49CFR238	●																		
TS	INSPECT BRAKE DISC	●	●	49CFR238	●																		
TS	INSPECT AND ADJUST CARBODY HEIGHT	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
TS	INSPECT AND ADJUST PRIMARY SUSPENSION SPRING HEIGHT	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
TS	INSPECT AND ADJUST SECONDARY SUSPENSION SPRING HEIGHT	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
TS	INSPECT TRUCK FRAME	●	●	49CFR238	●																		
TS	INSPECT BOLSTER AND BOLSTER ANCHOR	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●

VEHICLE TYPE: BLIND TRAILER COACH & CAB TRAILER COACH INSPECTION TYPE: SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	VEHICLE TYPE		REQUIREMENT	Daily	03 DAYS	05 DAYS	30 Days	60 Days	90 Days	120 Days	180 Days	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	8 YEAR	9 YEAR	10 YEAR	12 YEAR	15 YEAR
		CTC	BTC																				
TS	INSPECT ANCHOR ROD	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
TS	INSPECT DAMPERS	●	●	49CFR238	●																		
TS	INSPECT LATERAL BUMPER	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
TS	INSPECT SPEED SENSOR	●	●	49CFR238	●																		
TS	INPSECT TRUCK WIRING	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
TS	INSPECT TRUCK PIPING	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
TS	4 YEAR TRUCK OVERHAUL + BRAKES (MINUS RADIUS ARM RUBBERS, DISC BRAKE ACTUATOR BUSHING, AIR BAGS, LATERIAL STOPS, PRIMARY SPRINGS, BOLSTER WEAR PLATE AND PAD	●	●	FRA229												■						●	
TS	4 YEAR TRUCK OVERHAUL +BRAKES (INCLUDING RADIUS ARM RUBBERS, DISC BRAKE ACTUATOR BUSHING, AIR BAGS, LATERIAL STOPS, PRIMARY SPRINGS, BOLSTER WEAR PLATE AND PAD	●	●	FRA229															■				
CP	CHECK COUPLING LOCKS PROPERLY	●	●	49CFR238	◐																		
CP	INSPECT COUPLER AND DRAFT GEAR	●	●	49CFR238	●																		
CP	INSPECT LIFT LEVER AND OPERATING EYE	●	●	49CFR238	●																		
CP	INPSECT TRAINLINE PNUEMATIC HOSES	●	●	49CFR238	●																		
CP	INPSECT COUPLER BODY INTEGRITY	●	●	49CFR238	●																		
CP	INSPECT COUPLER HEIGHT. ADJUST AS REQUIRED	●	●	49CFR238	●																		
CP	INSPECT KNUCKLE CONTOUR	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
CP	INSPECT COUPLER SLACK LIMIT	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
CP	INSPECT COUPLER NOSE WEAR AND STRETCH	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
CP	INSPECT ALIGNING WING AND GUARD ARM	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
CP	INSPECT VERTICAL HEIGHT ALIGNMENT AND CONDEMING LIMITS	●	●	49CFR238	●																		
CP	INSPECT COUPLER LOCK	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
CP	INSPECT COUPLER LOCK DROP	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
CP	INSPECT ANTI-CREEP PROTECTION	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
CP	INSPECT FREE SLACK	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
CP	INSPECT COUPLER CARRIER	●	●	49CFR238	●																		
CP	OVERHAUL OF COUPLER SYSTEM AND DRAFT GEAR	●	●	49CFR238													■				●		
EL	INSPECT HIGH VOLTAGE BREAKER IN EDB	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
EL	INSPECT LOW VOLTAGE BREAKER IN EDB	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
EL	INSPECT TRAIN LINE JUMPER CABLE & COUPLER HEAD	●	●	49CFR238	●																		
EL	DC CURRENT SHUNT - INSPECT CABLE CONNECTION POINTS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
EL	DC CURRENT SHUNT - VERIFY OPERATIONAL ACTIVITY	●	●	49CFR238									◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
EL	HEP CURRENT SENSOR - VERIFY OPERATIONAL ACTIVITY	●		49CFR238									◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
EL	INSPECT BATTERY BOX FOR UNRESTRICTED VENTING	●	●	CFR-238	●																		
EL	CLEAN BATTERIES	●	●	OEM						●		●	●	●	●	●	●	●	●	●	●	●	●
EL	INSPECT BATTERY CONNECTIONS, ELECTROLYTE AND DAMAGE	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
EL	TEST BATTERY FOR CORRECT CHARGING AND CELL VOLTAGE	●	●	49CFR238						◐		◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
EL	INSPECT SPECIFIC GRAVITY OF BATTERY CELLS	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
EL	INSPECT TRAINLINE JUMPERS	●	●	49CFR238	●																		
EL	INSPECT TRAINLINE RECEPTACLES	●	●	49CFR238	●																		
LT	INSPECT ALL EXTERIOR LIGHTING FIXTURES. REPLACE AS REQUIRED.	●	●	49CFR238	●																		
LT	INSPECT ALL INTERIOR LIGHTING FIXTURES. REPLACE AS REQUIRED.	●	●	49CFR238	●																		
LT	CLEAN ALL LIGHTING FIXTURES. REPLACE AS REQUIRED	●	●	OEM						◐		●	●	●	●	●	●	●	●	●	●	◐	◐
LT	TEST ALL EXTERIOR LIGHTING	●	●	49CFR238	◐																		
LT	TEST ALL INTERIOR LIGHTING	●	●	49CFR238	◐																		
LT	INSPECT PASSENGER EMERGENCY LIGHTING	●	●	49CFR238	●																		
LT	TEST HEADLIGHT CONTROLLER	●		49CFR238	◐																		
LT	TEST AUXILIARY HEADLIGHT CONTROLLER	●		49CFR238	◐																		
LT	INSPECT & TEST CAB LIGHT	●		49CFR238	◐																		
LT	ALIGN HEADLIGHTS	●		49CFR238						◐		◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
LT	ALIGN AUXILIARY LIGHTS (EXTERIOR)	●	●	49CFR238						◐		◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
DS	SIDE ENTRANCE DOOR - VERIFY OPERATION BY OPERATING EACH MDC	●	●	49CFR238	◐																		
DS	SIDE ENTRANCE DOOR - CLEAN DOOR OPERATOR AND LOWER GUIDE	●	●	OEM						■		●	●	●	●	●	●	●	●	●	●	●	●
DS	ENGINEER SIDE ENTRANCE DOOR (MANUAL ONLY) - CLEAN DOOR OPERATOR AND LOWER GUIDE	●	●	OEM						■		●	●	●	●	●	●	●	●	●	●	●	●
DS	COLLISION POST DOOR - CLEAN DOOR AREA	●		OEM						■		●	●	●	●	●	●	●	●	●	●	●	●

VEHICLE TYPE: BLIND TRAILER COACH & CAB TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	VEHICLE TYPE		REQUIREMENT	Daily	03 DAYS	05 DAYS	30 Days	60 Days	90 Days	120 Days	180 Days	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	8 YEAR	9 YEAR	10 YEAR	12 YEAR	15 YEAR
		CTC	BTC																				
DS	SIDE ENTRANCE DOOR SYSTEM - VERIFY AUTOMATIC FUNCTION OF SIDE DOOR OPERATOR	●	●	49CFR238	●																		
DS	SIDE ENTRANCE DOOR SYSTEM - VERIFY FUNCTION OF CREW SWITCH ASSY	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
DS	ENGINEER SIDE ENTRANCE DOOR (MANUAL ONLY) - VERIFY THAT MANUAL OPEN AND CLOSE RIGHT SIDE OF ENTRANCE DOOR SYSTEM IS OPERATED SMOOTHLY	●		49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
DS	BODY END DOOR - VERIFY SMOOTH OPEN AND CLOSE	●	●	49CFR238	●																		
DS	BODY END DOOR - VERIFY FUNCTION OF CUT-OUT SWITCH	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
DS	BODY END DOOR - VERIFY RELEASE OF CUT-OUT SWITCH BY ELECTRICAL COMMAND	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
DS	COLLISION POST DOOR - INSPECT OPERATION	●		49CFR238	●																		
DS	SIDE ENTRANCE DOOR SYSTEM - VERIFY FUNCTION OF INTERIOR AND EXTERIOR EMOD, RCO/LCO SWITCHES, DOOR CONTROL ZONE SWITCH AND OPERATION OF DVA, DCA, DCL & DWL.	●	●	49CFR238	●																		
DS	SIDE ENTRANCE DOOR SYSTEM - INSPECT DOOR OPERATOR FOR DAMAGE AND LOOSE FASTENERS. INSPECT RUBBERS FOR SEALING AND BOTTOM GUIDE OF DOOR PANEL. INSPECT SET-UP OF MICRO AND ROTARY SWITCHES. INSPECT WIRING CONDITION OF DOOR OPERATOR.	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	SIDE ENTRANCE DOOR SYSTEM - ADJUST AND REPAIR SIDE ENTRANCE SYSTEM AS REQUIRED.	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	ENGINEER SIDE ENTRANCE DOOR (MANUAL ONLY) - INSPECT MANUAL DOOR MECHANICAL ASSEMBLY. INSPECT RUBBERS AND LOWER GUIDE.	●		49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	ENGINEER SIDE ENTRANCE DOOR (MANUAL ONLY) - INSPECT OPERATION AND STATUS OF MANUAL HARDWARE	●		49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	BODYEND DOOR - INSPECT MANUAL BODYEND DOOR OPERATING MECHANISM ASSY AND HANGER FOR DAMAGE. CLEAN AND REPAIR AS REQUIRED	●	●	49CFR238	●																		
DS	BODYEND DOOR - INSPECT TENSION OF EXTENSION SPRING ON OPERATING MECHANISM	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	BODYEND DOOR - INSPECT CUSHION RUBER AND BOTTOM GUIDE OF DOOR PANEL. REPLACE AS REQUIRED.	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	BODYEND DOOR - INSPECT OPERATION AND STATUS OF MANUAL HARDWARE	●	●	49CFR238	●																		
DS	BODYEND DOOR - ADJUST AND REPAIR AS REQUIRED.	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	COLLISION DOOR POST - INSPECT OPERTION AND STATUS OF MANUAL HARDWARE. REPLACE/REPAIR AS REQUIRED.	●		49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	COLLISION DOOR POST - ADJUST OR REPAIR AS REQUIRED.	●		49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	MASTER DOOR CONTROLLER (MDC) - VERIFY FUNCTION OF EASCH SWITCH AND MDKS	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	MASTER DOOR CONTROLLER (MDC) - INSPECT STATUS AND BUTTONS AND INDICATION LAMPS. INSPECT WIRING CONDITION OF MDC. REPAIR AS REQUIRED.	●	●	49CFR238								●	●	●	●	●	●	●	●	●	●	●	●
DS	DOOR SUMMARY RELAY PANEL - INSPECT OPERATION AND CONTACT STATUS	●	●	OEM								●	●	●	●	●	●	●	●	●	●	●	●
DS	DOOR SUMMARY RELAY PANEL - INSPECT WIRING CONDITION. REPAIR AS REQUIRED.	●	●	OEM								●	●	●	●	●	●	●	●	●	●	●	●
DS	SIDE ENTRANCE DOOR SYSTEM - INSPECT COUPLING ON THE DOOR OPERATOR. REPLACE AS REQUIRED.	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
DS	SIDE ENTRANCE DOOR SYSTEM - INSPECT ROLLER ASSEMBLY ON HANGER AND CAM FOLLOWER ON SPINDLE NUT ASSEMBLY. REPLACE AS REQUIRED.	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
DS	SIDE ENTRANCE DOOR SYSTEM - INSPECT INSPECT BOWDEN CABLES OF EMOD (INTERIOR AND EXTERIOR). REPLACE AS REQUIRED.	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
DS	BODY END DOOR - INSPECT ROLLER ASSEMBLY ON HANGER AND OPERATING ARM. REPLACE AS REQUIRED.	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
DS	COLLISION DOOR POST - INSPECT OPERATION AND STATUS OF FULL LENGTH PIANO HINGE. REPLACE AS REQUIRED.	●		OEM									●	●	●	●	●	●	●	●	●	●	●
DS	SIDE ENTRANCE DOOR SYSTEM - REPLACE MICRO SWITCHES	●	●	OEM																		●	●
DS	SIDE ENTRANCE DOOR SYSTEM - REPLACE LCO OR RCO SWITCH	●	●	OEM																		●	●
DS	SIDE ENTRANCE DOOR SYSTEM - REPLACE BOWDEN CABLE OF INTERIOR AND EXTERIOR EMOD	●	●	OEM																		●	●
DS	SIDE ENTRANCE DOOR SYSTEM - REPLACE CAM FOLLOWER OF SPINDLE NUT ASSEMBLY	●	●	OEM																		●	●

VEHICLE TYPE: BLIND TRAILER COACH & CAB TRAILER COACH | INSPECTION TYPE: SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	VEHICLE TYPE		REQUIREMENT	Daily	03 DAYS	05 DAYS	30 Days	60 Days	90 Days	120 Days	180 Days	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	8 YEAR	9 YEAR	10 YEAR	12 YEAR	15 YEAR
		CTC	BTC																				
DS	SIDE ENTRANCE DOOR SYSTEM - REPLACE DOOR STATUS LAMP OR BUZZER	●	●	OEM																		●	●
DS	SIDE ENTRANCE DOOR SYSTEM - REPLACE WIRING OF DOOR OPERATOR	●	●	OEM																		●	●
DS	BODY END DOOR SYSTEM - REPLACE ROLLER ASSY OF DRIVE ARM	●	●	OEM																		●	●
DS	BODY END DOOR SYSTEM - REPLACE EXTENSION SPRING	●	●	OEM																		●	●
DS	BODY END DOOR SYSTEM - REPLACE DAMAGED MANUAL OPERATION COMPONENTS AND MAGNETIC LATCH	●	●	OEM																		●	●
DS	COLLISION POST DOOR - REPLACE DAMAGED MANUAL OPERATION COMPONENTS (DOG HANDLES AND WEDGE DOG, END LOCK DEVICE AND KEEPER)	●		OEM																		●	●
DS	MDC - REPLACE MDKS OR PUSH BUTTON SWITCH	●	●	OEM																		●	●
DS	DOOR SUMMARY RELAY - REPLACE	●	●	OEM																		●	●
HV	INSPECT FRESH AIR FILTER. REPLACE AS REQUIRED	●	●	49CFR238				■	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT RETURN AIR FILTER. REPLACE AS REQUIRED	●	●	49CFR238				■	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT REFRIGERANT LEVEL AT SIGHT GLASS	●	●	49CFR238	●																		
HV	HVAC UNIT FUNCTION TEST	●	●	49CFR238								◐	●	◐	◐	◐	◐	◐	◐	◐	◐	●	◐
HV	HVAC UNIT INSPECT TEST MODES	●	●	49CFR238	◐																		
HV	HVAC UNIT CLEAN	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	HEAT EXCHANGER COILS CLEAN	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT AND CLEAN CONDENSER FANS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	CLEAN EVAPORATOR CONDENSATE DRAIN TRAY	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT VIBRATION MOUNTS	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT FILTER DRYER	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT SERVICE VALVES	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT SUCTION ACCUMMULATOR	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT TX VALVES	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT SOLENOID VALVES	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT PRESSURE TRANSDUCER	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT COMPRESSORS	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT FRESH AIR DAMPER	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT SUPPLY AIR MOTOR	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	INSPECT TEMPERATURE SENSOR	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	CLEAN EVAPORATOR COIL HEATERS	●	●	OEM									◐	●	◐	◐	◐	●	●	●	●	◐	●
HV	CLEAN CONDENSOR COILS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	CLEAN FRESH AIR DAMPER ASSEMBLY	●	●	OEM									●	●	◐	◐	◐	◐	◐	◐	◐	◐	◐
HV	UNDERSEAT HEATER -1 SEAT ASSY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	UNDERSEAT HEATER -1 SEAT ASSY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER -1 SEAT ASSY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER -1 SEAT ASSY - PERFORM RESISTANCE CHECK ON ALL ELEMENTS	●	●	49CFR238											◐			◐		◐		◐	◐
HV	UNDERSEAT HEATER - 2 SEAT UPPER LEVEL ASSY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	UNDERSEAT HEATER - 2 SEAT UPPER LEVEL ASSY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 2 SEAT UPPER LEVEL ASSY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 2 SEAT UPPER LEVEL ASSY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									◐	●	●	●	●	●	◐	●	●	◐	◐
HV	UNDERSEAT HEATER - 2 SEAT UPPER LEVEL ASSY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											◐			◐		◐		◐	◐
HV	UNDERSEAT HEATER - 2 SEAT LOWER LEVEL ASSY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	UNDERSEAT HEATER - 2 SEATLOWER LEVEL ASSY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 2 SEAT LOWER LEVEL ASSY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 2 SEAT LOWER LEVEL ASSY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 2 SEAT LOWER LEVEL ASSY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											◐			◐		◐		◐	◐

VEHICLE TYPE: BLIND TRAILER COACH & CAB TRAILER COACH **INSPECTION TYPE:** SCHEDULED

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		CTC	BTC																				
HV	UNDERSEAT HEATER -3 SEAT UPPER LEVEL ASSY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	UNDERSEAT HEATER - 3 SEAT UPPER LEVEL ASSY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 3SEAT UPPER LEVEL ASSY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 3 SEAT UPPER LEVEL ASSY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 3 SEAT UPPER LEVEL ASSY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											◍			◍		◍		◍	◍
HV	UNDERSEAT HEATER - 3 SEAT LOWER LEVEL ASSY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	UNDERSEAT HEATER - 3 SEATLOWER LEVEL ASSY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 3 SEAT LOWER LEVEL ASSY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 3 SEAT LOWER LEVEL ASSY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	UNDERSEAT HEATER - 3 SEAT LOWER LEVEL ASSY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											◍			◍		◍		◍	◍
HV	ENDWALL HEATER 1 SEAT ASSY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	ENDWALL HEATER 1 SEAT ASSY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	ENDWALL HEATER 1 SEAT ASSY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	ENDWALL HEATER 1 SEAT ASSY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	ENDWALL HEATER 1 SEAT ASSY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											◍			◍		◍		◍	◍
HV	ENDWALL HEATER 3 SEAT ASSY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	ENDWALL HEATER 3 SEAT ASSY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	ENDWALL HEATER 3 SEAT ASSY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	ENDWALL HEATER 3 SEAT ASSY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	ENDWALL HEATER 3 SEAT ASSY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											◍			◍		◍		◍	◍
HV	TOILET AREA HEATER ASSY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS		●	49CFR238	●																		
HV	TOILET AREA HEATER ASSY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS		●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	TOILET AREA HEATER ASSY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION		●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	TOILET AREA HEATER ASSY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS		●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	TOILET AREA HEATER ASSY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS		●	49CFR238											◍			◍		◍		◍	◍
HV	LOCKER HEATER ASSY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	LOCKER HEATER ASSY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	LOCKER HEATER ASSY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	LOCKER HEATER ASSY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	LOCKER HEATER ASSY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											◍			◍		◍		◍	◍
HV	LONG SIDEWALL HEATER TYPE 1 ASSEMBLY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	LONG SIDEWALL HEATER TYPE 1 ASSEMBLY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	LONG SIDEWALL HEATER TYPE 1 ASSEMBLY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●

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		CTC	BTC																				
HV	LONG SIDEWALL HEATER TYPE 1 ASSEMBLY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	LONG SIDEWALL HEATER TYPE 1 ASSEMBLY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											●			●		●		●	●
HV	LONG SIDEWALL HEATER TYPE 2 ASSEMBLY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	LONG SIDEWALL HEATER TYPE 2 ASSEMBLY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	LONG SIDEWALL HEATER TYPE 2 ASSEMBLY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	LONG SIDEWALL HEATER TYPE 2 ASSEMBLY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	LONG SIDEWALL HEATER TYPE 2 ASSEMBLY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											●			●		●		●	●
HV	SHORT SIDEWALL HEATER TYPE 1 ASSEMBLY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	SHORT SIDEWALL HEATER TYPE 1 ASSEMBLY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	SHORT SIDEWALL HEATER TYPE 1 ASSEMBLY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	SHORT SIDEWALL HEATER TYPE 1 ASSEMBLY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	SHORT SIDEWALL HEATER TYPE 1 ASSEMBLY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											●			●		●		●	●
HV	SHORT SIDEWALL HEATER TYPE 2 ASSEMBLY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	SHORT SIDEWALL HEATER TYPE 2 ASSEMBLY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	SHORT SIDEWALL HEATER TYPE 2 ASSEMBLY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	SHORT SIDEWALL HEATER TYPE 2 ASSEMBLY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	SHORT SIDEWALL HEATER TYPE 2 ASSEMBLY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											●			●		●		●	●
HV	CAB FLOOR HEATER ASSEMBLY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●		49CFR238	●																		
HV	CAB FLOOR HEATER ASSEMBLY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●		49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	CAB FLOOR HEATER ASSEMBLY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●		49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	CAB FLOOR HEATER ASSEMBLY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●		OEM									●	●	●	●	●	●	●	●	●	●	●
HV	CAB FLOOR HEATER ASSEMBLY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											●			●		●		●	●
HV	FORCED AIR CAB HEATER ASSEMBLY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	FORCED AIR CAB HEATER ASSEMBLY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	FORCED AIR CAB HEATER ASSEMBLY - INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	FORCED AIR CAB HEATER ASSEMBLY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	FORCED AIR CAB HEATER ASSEMBLY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											●			●		●		●	●
HV	FORCED AIR VESTIBULE HEATER ASSEMBLY - CHECK HEATER AIR OUTLET COVERS FOR AIR RESTRICTIONS	●	●	49CFR238	●																		
HV	FORCED AIR VESTIBULE HEATER ASSEMBLY - OBSERVE DAMAGED TO AIR OUTLET COVERS, INCLUDING ANY ACCUMMULATION OF DUST AND DEBRIS	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
HV	FORCED AIR VESTIBULE HEATER ASSEMBLY- INSPECT HEATERS FOR DAMAGE OR DISCOLOURATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
HV	FORCED AIR VESTIBULE HEATER ASSEMBLY - CLEAN DUST OR DEBRIS FROM HEATERS AND COVERS	●	●	OEM									●	●	●	●	●	●	●	●	●	●	●
HV	FORCED AIR VESTIBULE HEATER ASSEMBLY - PERFORM RESISTANCE CHECK ON ALL HEATER ELEMENTS	●	●	49CFR238											●			●		●		●	●
CM	TEST C-AMP FOR CTC/BTC OPERATION TRIGGERED AT THE TEST BUTTON	●		49CFR238	●																		
CM	C-AMP FOR CTC/BTC REPLACE ELECTROLYTIC CAPACITORS	●		OEM																			●
CM	PEI OPERATION TRIGGERD BY TEST BUTTON	●		49CFR238	●																		

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		CTC	BTC																				
CM	INTERCOMMUNICATION CHECK BETWEEN PEI AND CCH. PRE-RECORDED ANNOUNCEMENT CHECK TRIGGERED BY ACTIVATION OF PEI	●		49CFR238	●																		
CM	PEI ELECTROLYTIC CAPACITORS REPLACE	●		OEM																			●
CM	CONTROL HEAD OPERATION TRIGGERED BY THE TEST BUTTON. CHECK INTERCOMMUNICSTION BETWEEN CCHs	●		49CFR238	●																		
CM	CONTROL HEAD ELECTROLYTIC CAPACITORS REPLACE	●		OEM																			●
CM	INTERIOR SPEAKER OPERATION TRIGGERED BY TEST BUTTON	●	●	49CFR238	●																		
CM	MIDDLE SPEAKER OPERATION TRIGGERED BY TEST BUTTON	●	●	49CFR238	●																		
CM	EXTERIOR SPEAKER OPERATION TRIGGERED BY TEST BUTTON	●		49CFR238	●																		
CM	NOISE SENSING MICROPHONE - NOISE SENSING CHEC+A1K GENERATED BY MAKE A NOISE BY MANUAL	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
CM	LDVR - CONNECTION CHECK BY THE PRESS TO TEST BUTTON	●		49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
CM	LDVR -REPLACE UNINTERRUPTIBLE POWER SYSTEM	●		OEM											●			●		●		●	●
CM	LDVR -REPLACE TABLET BATTERY	●		OEM											●			●		●		●	●
CM	LDVR -HDD REPLACEMENT	●		OEM											●			●		●		●	●
CM	BUZZER (BELL) FOR INTERIOR - PRESS THE PUSH BUTTON FOR INTERIOR AND HEARING TEST	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
CM	BUZZER PUSH BUTTON - PRESS THE PUSH BUTTON FOR INTERIOR AND HEARING TEST	●	●	49CFR238	●																		
CM	IEMS - VISUAL CHECK DURING THE SELF TRIGGERED BY THE TEST BUTTON	●		49CFR238	●																		
CM	IEMS - REPLACE ELECTROLYTIC CAPACITORS	●		OEM																			●
CM	EEMS - VISUAL CHECK DURING SELF TEST IS TRIGGERED BY TEST BUTTON IN THE C-AMP	●		49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
CM	EEMS - REPLACE ELECTROLYTIC CAPACITORS	●		OEM																			●
CM	TRAIN RADIO - TX AND RX CHECK BETWEEN DRIVER AND WAYSIDE	●		49CFR238	●																		
CM	CAMERA - CONNECTION CHECK BY PRESS TO TEST BUTTON	●		49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
BS	INSPECT AIR GAUGE FUNCTION. REPLACE BULB AS REQUIRED.	●	●	49CFR238	●																		
BS	INSPECT BRAKE DISC AND HARDWARE	●	●	49CFR238	■																		
BS	UNDERTAKE CLASS 1 AIR BRAKE INSPECTION AND BRAKE TEST	●	●	49CFR238	●																		
BS	STANDING BRAKE TEST	●	●	49CFR238						■		●	●	●	●	●	●	●	●	●	●	●	●
BS	INSPECT BRAKE DISC AND HUB	●	●	49CFR238						■		●	●	●	●	●	●	●	●	●	●	●	●
BS	INSPECT D5 OPERATING UNIT	●	●	49CFR238					●		●	●	●	●	●	●	●	●	●	●	●	●	●
BS	STANDING FUNCTION TEST	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
BS	CALIBRATE AIR GAUGE	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
BS	CALIBRATE FLOW INDICATION	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
BS	REPLACE MAIN AIR RESERVOIR FILTER	●	●	OEM								●	●	●	●	●	●	●	●	●	●	●	●
BS	STANDING FUNCTION TEST (INCLUDING EMERGENCY)	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
BS	STANDING EMERGENCY TEST	●	●	49CFR238	■																		
BS	PRESSURE TRANSDUCER VERIFICATION	●	●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
BS	LUBRICATE CAB HANDLE UNIT	●	●	OEM																			
BS	OVERHAUL FAST BRAKE EQUIPMENT	●	●	49CFR238/											■		●				●		
BS	CLEAN AND LUBRICATE HANDBRAKE	●	●	49CFR238/																			
BS	CONDUCT 5 DAY BRAKE DISC INSPECTION	●	●	49CFR238			●																
TM	TOILET MODULE - INSPECT; DOOR HANDLE LOCK, FRP PANELLING, HAND RAILS, OUT OF SERVICE LIGHT, PAPER TOWEL DISPENSER, SINK BASIN, SINK FAUCET, SOAP DISPENSER, TOILET MODULE, TOILET PAPER DISPENSER, TOILET SEAT, TRASH BIN, VANITY MIRROR		●	49CFR238	●																		
TM	WASTE SYSTEM - INSPECT; OUT OF SERVICE LIGHT, RETENTION TANK LEVEL SENSORS, TOILET, TOILET WATER SUPPLY PUMP AND SPRAY RING, WATER 1/2 & EMPTY LEVEL SENSORS, WATER INLETS.		●	49CFR238	●																		
TM	TOILET MODULE - REPLACE AIR SUPPLY SYSTEM AND AIR FRESHNER		●	OEM						●		●	●	●	●	●	●	●	●	●	●	●	●
TM	TOILET MODULE - INSPECT OUT OF SERVICE SWITCH		●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
TM	WASTE SYSTEM - INSPECT; AIR TOILET FUNCTION, HOPPER HOSE AND SEALS, OUT OF SERVICE SWITCH, TOILET FLUSHING		●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
TM	WASTE SYSTEM -CLEAN WATER STRAINER		●	OEM						●		●	●	●	●	●	●	●	●	●	●	●	●
TM	TOILET MODULE - INSPECT FLOOR AND DRAIN		●	49CFR238	●																		

VEHICLE TYPE: BLIND TRAILER COACH & CAB TRAILER COACH **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	VEHICLE TYPE		REQUIREMENT	Daily	03 DAYS	05 DAYS	30 Days	60 Days	90 Days	120 Days	180 Days	1 YEAR	2 YEAR	3 YEAR	4 YEAR	5 YEAR	6 YEAR	8 YEAR	9 YEAR	10 YEAR	12 YEAR	15 YEAR
		CTC	BTC																				
TM	WASTE SYSTEM - INSPECT; FLUID LEVEL INDICATING LIGHTS AND RETENTION TANK CABINET DRAIN		●	49CFR238								●	●	●	●	●	●	●	●	●	●	●
TM	WASTE SYSTEM - TEST RETENTION TANK PRESSURE RELIEF VALVE		●	49CFR238								●	●	●	●	●	●	●	●	●	●	●
TM	WASTE SYSTEM - INSPECT WASTE OUTLET LOCATION, FLUID LEVEL INDICATING LIGHTS AND WASTE RETENTION TANK		●	49CFR238	●																		
TM	WASTE SYSTEM - REPLACE WATER STRAINER		●	OEM								●	●	●	●	●	●	●	●	●	●	●	●
TM	TOILET MODULE - INSPECT; BREAKERS, ELECTRICAL BOX, EQUIPMENT STORAGE, EXHAUST SYSTEM, GENERAL CURCUITS, LOCKS, UNDER SINK ACCESS PANEL		●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
TM	TOILET MODULE - LUBRICATE; SLIDING DOR, DOOR HANDLE AND LOCKS, ALL OTHER LOCKS		●	OEM																			
TM	WASTE SYSTEM - INSPECT; AIR SUPPLY PANEL CUT-OUT COCK AND DISCHARGE, DISCHARGE PIPING HEATING, DISCHARGE PIPING OUTLETS, ELECTRICAL BOX, OGONTZ VALVE (ANTI-FREEZE) & HEATER, OVER-FLOW LOCATIONS, REMOTE CONTROL VALVE AND CABLES, RETENTION TANK AND WATER TANK INTERNAL SPRAY NOZZLE		●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
TM	WASTE SYSTEM - CLEAN RETENTION TANK CABINET DRAIN		●	OEM									●	●	●	●	●	●	●	●	●	●	●
TM	WASTE SYSTEM - INSPECT;RETENTION TANK HEATER, RETENTION TANK PRESSURE RELIEF VALVE, RETENTION TANK VACUUM VALVE, TOILET WATER CUT-OUT VALVE, TOILET WATER OVDER FLOW SENSOR, TOILET WATER SUPPLY PUMP & SPRAY RING, WASTE DISCHARGE PIPING, WASTE SYSTEM.		●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
TM	WATER SYSTEM - INSPECT; FAUCET CUT-OUT VALVE, OGONTZ VALVE(ANTI-FREEZE) & HEATER, OVERFLOW LOCATIONS, WATER DRAIN VALVE, WATER MANIFOLD, WATER SUPPLY VALVE, WATER SYSTEM STERILISATION, WATER TANK, WATER TANK HEATER, WATER TANK PRESSURE RELIEF VALVE, WATER TANK VACUUM VALVE.		●	49CFR238									●	●	●	●	●	●	●	●	●	●	●
PTC	ATC DEPARTURE TEST	●		49CFR238	◐																		
PTC	VERIFY THAT ATC & ACSES COMPONENTS ARE FREE FROM DAMAGE AND OPERATE IN ACCORDANCE WITH REQUIREMENTS	●		49CFR238						◐		◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
EV	VERIFY OPERATION OF EVENT RECORDER	●		49CFR238						◐		◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
CC	CLEAN OPERATOR DISPLAY SCREEN SURFACE	●	●	OEM	■																		
CC	DOWNLOAD DATA FROM MONITORING AND CONTROL UNIT	●	●	49CFR238						◐		◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
CC	INSPECT CABLE CONECTIONS AT BATTERY CURENT SENSOR	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
CC	INSPECT RTC BATTERY LED's ON MCM	●	●	49CFR238						●		●	●	●	●	●	●	●	●	●	●	●	●
CC	VERIFY OPERATION OF BATTERY CURRENT SENSOR	●	●	49CFR238									◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
CC	VERIFY OPERATION OF HEP CURRENT SENSOR	●		49CFR238									◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
CC	TEST DC SHUNT	●		49CFR238									◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
CC	TEST HEP SHUNT	●		49CFR238									◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐
CB	UNDERTAKE CLASS C VEHICLE CLEAN	●	●	MBTA	●																		
CB	UNDERTAKE CLASS B VEHICLE CLEAN	●	●	MBTA		●																	
CB	UNDERTAKE CLASS A VEHICLE CLEAN	●	●	MBTA				●															

MBTA MAINTENANCE PLAN
COMMUTER EQUIPMENT

Vehicle Location KEY:

AUXILIARY POWER SUPPLY **APS**	HEP SYSTEM **HP**
CAB CONTROLS **CC**	HVAC SYSTEM **HV**
CARBODY EXTERIOR AND INTERIOR **CB**	EVENT/ALERTER SYSTEM **EV**
COMMUNICATION **CM**	POSITIVE TRAIN CONTROL / ATC / ACSES **PTC**
DOOR SYSTEM **DS**	PROPULSION **PS**
MAIN ENGINE/AIR INTAKE/EXHAUST/COOLING SYSTEM **ME**	TRUCK SUSPENSION/COUPLER DRAFT GEAR **TS**
FRICTION BRAKE **FB**	

COLOR KEY:
INSPECTION: ●
REPLACE: ●
CLEAN: ●
LUBRICATE:
TEST: ◍

VEHICLE TYPE: LOCOMOTIVE, DIESEL

INSPECTION TYPE: SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)					REQUIREMENT	FREQUENCY							
		F40PH-2	F40PH-2C	F40PHM-2C	GP40MC	MP36PH-3C		DAILY	45 DAY	92 DAY	180 Day	1-Year	2-Year	1-Yr Air	3 Yr Air
APS	Change cab heaters brushes	●	●	●	●	●	FRA229					●	●		
APS	Change electrical cabinet filters	●	●	●	●	●	FRA229					●	●		
APS	Change the polarity of the companion Alternator #1 & #2 sliprings accordingly to emd Sa-04-016	●	●	●	●	●	FRA229				●		●		
APS	Chech high voltage system for grounds, record reading	●	●	●	●	●	FRA229			●	●	●	●		
APS	Check all 480 MU and Comm recepticles	●	●	●	●	●	FRA229	●	●	●	●	●	●		
APS	Check and replenish supply of spare fuses and lamps	●	●	●	●	●	FRA229	●	●	●	●	●	●		
APS	Check Auxillary Generator Voltage 74 volts	●	●	●		●	FRA229		●	●	●	●	●		
APS	Check Auxillary Generator Voltage 74 volts				●		FRA229	●	●	●	●	●	●		
APS	Check auxilliary generator for wear and damage	●	●	●			FRA229			●		●	●		
APS	Check auxilliary generator for wear and damage				●	●	FRA229			●	●	●	●		
APS	Check battery specific gravity and record readings	●	●	●	●	●	FRA229			●	●	●	●		
APS	Check ditch light timing	●	●	●	●	●	FRA229			◍	◍	◍	◍		
APS	Check for Low Voltage system Grounds	●	●	●	●	●	FRA229	●	●	●	●	●	●		
APS	Check headlights, panels and carbody lights	●	●	●	●	●	FRA 229	●	●	●	●	●	●		
APS	Check monitor annunciator lights	●	●	●	●	●	FRA229	●	●	●	●	●	●		
APS	Check operation of ground relay and calibrate	●	●	●	●	●	FRA229			◍	◍	◍	◍		
APS	Check operation of layover protection system on main engine	●	●	●	●	●	FRA229			●	●	●	●		
APS	Check operation of the lamarche battery charger and record	●	●	●	●	●	FRA229			●	●	●	●		
APS	Check shutters for proper operation	●					FRA229	◍	◍	◍	◍	◍	◍		
APS	Clean alternator inspection window and diode banks	●	●	●	●	●	FRA229			◍	●	●	●		
APS	Disconnect battery cables and jumpers, clean lugs and battery	●	●	●	●	●	FRA229					●	●		
APS	Inspect all electrical contactors, relays, wiring terminals	●	●	●	●	●	FRA229	●	●	●	●	●	●		
APS	Inspect all step lights and clean globes	●	●	●	●	●	FRA229	●	●	●	●	●	●		
APS	Inspect and clean control stand mechanism and electrical con	●	●	●	●	●	FRA229					●	●		
APS	Inspect load regulator for wear and damage, renew brushes as required	●	●	●	●	●	FRA229			●	●	●	●		
APS	Make circuit tests at MU recepticles	●	●	●	●	●	FRA229			◍	◍	◍	◍		
APS	Relamp all lights as necessary	●	●	●	●	●	FRA229	●	●	●	●	●	●		
APS	Test all modules AN, EL, WS, SA, WO, TH and DA	●	●	●	●	●	FRA229			◍	◍	◍	◍		
APS	Test Electrical operating safety control devices (Alertor)	●	●	●	●	●	FRA229	◍	◍	◍	◍	◍	◍		
APS	Test Transducers (BC - T)				●		FRA229								◍
APS	Test Transducers (CBP - T)				●		FRA229								◍
APS	Test Transducers (FL - T)				●		FRA 229								◍
APS	Test Transducers (MR - T)				●		FRA229								◍
APS	Wash battery trays and grease terminals	●	●	●	●	●	FRA229			◍	●	●	●		
CC	Check Cab card dates for FRA compliance	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CC	Check operation of cab heaters	●	●	●	●	●	FRA229			●	●	●	●		
CC	Check seal on alertor cut out cock	●	●	●	●	●	FRA229	●	●	●	●	●			
CC	Inspect cab heaters brushes replace as necessary	●	●	●	●	●	FRA229		●	●	●	●	●		
CC	Test Electrical operating safety control devices (Alertor)	●	●	●	●	●	FRA229	◍	◍	◍	◍	◍	◍		
CC	Test horn, bell and windshield wipers	●	●	●	●	●	FRA229	◍	◍	◍	◍	◍	◍		
CB	Check all decals and stencils for defects	●	●	●	●	●	FRA229	●	●	●	●	●	●		

VEHICLE TYPE: LOCOMOTIVE, DIESEL

INSPECTION TYPE: SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)					REQUIREMENT	FREQUENCY							
		F40PH-2	F40PH-2C	F40PHM-2C	GP40MC	MP36PH-3C		DAILY	45 DAY	92 DAY	180 Day	1-Year	2-Year	1-Yr Air	3 Yr Air
CB	Check all seals replace if required	●	●	●	●	●	FRA229		●	●	●	●	●		
CB	Check all windows and door seals for defects	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CB	Check cab seats and mounting appurtenances	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CB	Check first aid kit and replenish as necessary	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CB	Check mirrors and hardwear for defects	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CB	Check nose for anti skid pads for damage	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CB	Check unit number glass	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CB	Clean Cab floors (+ check for trip hazards) and windows	●					FRA229	●	●	●	●	●	●		
CB	Clean loco internally and externally	●	●	●	●	●	FRA229			●	●	●	●		
CB	Clean main engine room and walls	●	●	●	●	●	FRA229			●	●	●	●		
CB	Drain condensation from fuel tank	●	●	●	●	●	FRA229		●	●	●	●	●		
CB	Drain condensation from fuel tank sump	●	●	●	●	●	FRA229				●	●	●		
CB	Drain, clean and flush all sumps and environmental tanks	●	●	●	●	●	FRA229			●	●	●	●		
CB	Ensure that all fire extinguishers are in place charged and tagged	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CB	Inspect all weldments as per safety appliance plan	●	●	●	●	●	FRA229		●	●	●	●	●		
CB	Inspect fuel tank for damage	●	●	●	●	●	FRA229		●	●	●	●	●		
CB	Inspect, clean and repair fuel tank sight glasses and gauges	●	●	●	●	●	FRA229		●	●	●	●	●		
CB	Perform Class A Vehicle Clean	●	●	●	●	●	MBTA					●	●		
CB	Perform Class B Vehicle Clean	●	●	●	●	●	MBTA			●	●				
CB	Perform Class C Vehicle Clean	●	●	●	●	●	MBTA	●							
CB	Wipe down electrical cabinets	●	●	●	●	●	FRA229				●	●	●		
CM	Talk - Test Radio	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CM	Test public address system and intercom	●	●	●	●	●	FRA229	●	●	●	●	●	●		
CM	Test the Cab signal system using the appropriate TCT forms	●	●	●	●	●	FRA229	●	●	●	●	●	●		
DS	Inspect electrical cabinet doors for damage, leaks and air compressor	●	●	●	●	●	FRA229		●	●	●	●	●		
DS	Lubricate all door hinges locks cabinet doors and miscelaneous	●	●	●	●	●	FRA229								
EV	Check Map-9 for defects	●	●	●	●	●	FRA229			●	●	●	●		
EV	Test the operation of event recorder and speed indicator	●	●	●	●	●	FRA229	●	●	●	●	●	●		
FB	Air Gauges	●	●	●	●	●	FRA229			●	●	●	●		
FB	Change 3 LF-19-T FL19 Filter				●		FRA229					●			
FB	Change air compressor heads with new valves	●	●	●	●	●	FRA229						●		
FB	Change air compressor oil	●	●	●	●	●	FRA229					●	●		
FB	Change autt drain valves (880) wiring	●	●	●	●	●	FRA229						●		
FB	Change coalescers	●	●	●	●	●	FRA229					●	●		
FB	Change dynamic Brake blower motor brushes	●	●	●	●	●	FRA229						●		
FB	Change final filter and coalescers	●	●	●	●	●	FRA229					●	●		
FB	Change Manual drains 2 final filters and M-R Tank	●	●	●	●	●	FRA229								●
FB	Change out #584 Check valve (4)	●	●	●		●	FRA229								●
FB	Change out #598 check valves (9)	●	●	●		●	FRA229								●
FB	Change out #8 Vent valves	●	●	●		●	FRA229								●
FB	Change out (60lb) intercooler safety valve (Kunkle)	●	●	●	●	●	FRA229							●	●
FB	Change out 150lb main reservoir safety valve	●	●	●	●	●	FRA229							●	●
FB	Change out 2 #8 vent valves	●	●	●	●	●	FRA229							●	
FB	Change out 2 #880 main reservoir drain valves	●	●	●	●	●	FRA229							●	●
FB	Change out 2 EP Brake Magnet Valves	●	●	●	●	●	FRA229						●		
FB	Change out 2 H-5 (50lb) Relay air valves	●	●	●		●	FRA229							●	
FB	Change out 2 inch Check valve with Orifice (Pm301-2A)	●	●	●		●	FRA229								●
FB	Change out 26C Automatic Brake valve	●	●	●		●	FRA229								●

VEHICLE TYPE: LOCOMOTIVE, DIESEL **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)					REQUIREMENT	FREQUENCY							
		F40PH-2	F40PH-2C	F40PHM-2C	GP40MC	MP36PH-3C		DAILY	45 DAY	92 DAY	180 Day	1-Year	2-Year	1-Yr Air	3 Yr Air
FB	Change out 26F Control Valve/Service Portion	●	●	●		●	FRA229								●
FB	Change out 3 HB-5 (25lb) relay air valve	●	●	●		●	FRA229							●	●
FB	Change out 3 HB-5 (50lb) relay air valve	●	●	●	●	●	FRA229					●			●
FB	Change out A-1 Charging cut-off pilot valve	●	●	●		●	FRA229								●
FB	Change out Acses magnet valve (orange)	●	●	●		●	FRA229								●
FB	Change out air compressor unloader magnet valve	●	●	●	●	●	FRA229								●
FB	Change out alertor magnet valve	●	●	●		●	FRA229								●
FB	Change out analog convertor (AW 4-16)				●		FRA229								●
FB	Change out analog convertor (AW 4-ER)				●		FRA229								●
FB	Change out bell cartridge	●	●	●	●	●	FRA229							●	●
FB	Change out bell magnet valve				●		FRA229								●
FB	Change out blended brake magnet valve (hold)	●	●	●		●	FRA229								●
FB	Change out blended brake magnet valve (release)	●	●	●		●	FRA229								●
FB	Change out control assembly (20 block)				●		FRA229								●
FB	Change out controller valve - Emergency				●		FRA229								●
FB	Change out cut off (BP - CO)				●		FRA229								●
FB	Change out DB10 Service portion - assembly				●		FRA229								●
FB	Change out double check valve (DVC)				●		FRA229								●
FB	Change out double check valve (PVE)				●		FRA229								●
FB	Change out emergency (PVEM)				●		FRA229								●
FB	Change out Ep Control valve (Cs1)	●	●	●		●	FRA229								●
FB	Change out HB-5 (10lb) relay air valve	●	●	●	●	●	FRA229					●			
FB	Change out HB-5 (17lb) relay air valve	●	●	●		●	FRA229							●	●
FB	Change out horn magnet valve				●		FRA229								●
FB	Change out J1-1.6-16 Relay valve	●	●	●	●	●	FRA229							●	●
FB	Change out KR 5 EO Relay (Choke swapped)				●		FRA229								●
FB	Change out M/R 1 1/4 check valve with orifice (PM311)	●	●	●	●	●	FRA229						●		
FB	Change out M/R 1 1/4 check valve with orifice (PM5233)				●		FRA229								●
FB	Change out magent valve (MV 13 E)				●		FRA229								●
FB	Change out magnet valve (4T Piston)				●		FRA229								●
FB	Change out magnet valve (A)				●		FRA229								●
FB	Change out magnet valve (E)				●		FRA229								●
FB	Change out magnet valve (MV 135)				●		FRA229								●
FB	Change out magnet valve (MV 16 T)				●		FRA229								●
FB	Change out magnet valve (MV ER)				●		FRA229								●
FB	Change out magnet valve (MV53)				●		FRA229								●
FB	Change out magnet valve (MVEM)				●		FRA229								●
FB	Change out magnet valve (R)				●		FRA229								●
FB	Change out Mu2A Valve	●	●	●		●	FRA229								●
FB	Change out NS-1 (45lb) regulating valve	●	●	●	●	●	FRA229					●			
FB	Change out nS-1 (90lb) regulating valve	●	●	●		●	FRA229							●	●
FB	Change out one way valve (594-000) (1)				●		FRA229								●
FB	Change out overflow valve (13 - CO)				●		FRA229								●
FB	Change out P-2A Application valve	●	●	●		●	FRA229								●
FB	Change out quick release portion	●	●	●	●	●	FRA229						●		
FB	Change out Sa26 independant Brake valve	●	●	●		●	FRA229								●
FB	Change out salem Air Dryer magnet valves (2)	●	●	●		●	FRA229								●
FB	Change out sander magnet valves (2)	●	●	●	●	●	FRA229								●

VEHICLE TYPE: LOCOMOTIVE, DIESEL **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)					REQUIREMENT	FREQUENCY								
		F40PH-2	F40PH-2C	F40PHM-2C	GP40MC	MP36PH-3C		DAILY	45 DAY	92 DAY	180 Day	1-Year	2-Year	1-Yr Air	3 Yr Air
FB	Change out shutter control magnet valves	●	●	●	●	●	FRA229								●
FB	Change out train control (TC) magnet valve	●	●	●	●	●	FRA229					●	●		
FB	Change out train control (TC) timing valve	●	●	●	●	●	FRA229					●			
FB	Change outChange out B/P 1" Cutout cock	●	●	●	●	●	FRA229						●		
FB	Change out regulating valve				●		FRA229								●
FB	Change Salam air dryer wiring	●	●	●	●	●	FRA229						●		
FB	Check all air hoses, cocks and air cutout valves	●	●	●	●	●	FRA229	●	●	●	●	●	●		
FB	Check handbrake date	●	●	●	●	●	FRA229				●	●	●		
FB	Check humidity Indicator: Blue=Functioning properly	●	●	●	●	●	FRA229			●	●	●	●		
FB	Check manual and automatic drain valves	●	●	●	●	●	FRA229		●	●	●	●	●		
FB	Check operation of Handbrake and date stamped	●	●	●	●	●	FRA229	●	●	●	●	●	●		
FB	Check salem air dryer for proper operation check sight glass	●	●	●	●	●	FRA229		◍	◍	◍	◍	◍		
FB	Check that air box drains are open	●	●	●	●	●	FRA229			●	●	●	●		
FB	Conduct Caqam Test	●	●	●		●	FRA229								◍
FB	Drain condensation from all reservoirs intercoolers and dirt collectors	●	●	●	●	●	FRA229		●	●	●	●	●		
FB	Drain Sumps	●	●	●	●	●	FRA229		●						
FB	Inspect auto drain valves (880) wiring, replace as necessary	●	●	●	●	●	FRA229			●	●				
FB	Inspect brake rigging for wear and damage	●	●	●	●	●	FRA229	●	●	●	●	●	●		
FB	Inspect Dynamic brake blower motor and renew brushes as necessary	●	●	●	●	●	FRA229			●	●	●	●		
FB	Inspect salem air dryer wiring, replace as necessary	●	●	●	●	●	FRA229			●	●				
FB	Orifice test air compressor	●	●	●	●	●	FRA229			◍	◍	◍	◍		
FB	Perform A blended brake self test	●	●	●	●	●	FRA229					◍	◍		
FB	Perform a self test on blended brake	●	●	●	●	●	FRA229			◍	◍	◍	◍		
FB	Recharge desiccant canister assemblies	●	●	●	●	●	FRA229					●	●		
FB	Remove and overhaul 930-000 drain valves	●	●	●	●	●	FRA229					●	●		
FB	Remove and overhaul desiccent compactor	●	●	●	●	●	FRA229					●	●		
FB	Remove and overhaul duplex solenoid valve including pressure	●	●	●	●	●	FRA229					●	●		
FB	Remove, disassemble, clean and reasemble inlet and outlet Salam Valves	●	●	●	●	●	FRA229					●	●		
FB	Replace air and oil filters on air compressor	●	●	●	●	●	FRA229			●	●	●	●		
FB	Replace seals and seats in check valves	●	●	●	●	●	FRA229					●	●		
FB	Replace worn and cracked brake shoes. Adjust cylinder travel 3 to 5 inches	●	●	●	●	●	FRA229	●	●	●	●	●	●		
FB	Test Air brake and air signal equipment	●	●	●	●	●	FRA229	◍	◍	◍	◍	◍	◍		
FB	Test main reservoir safety valve (150-155lbs)	●	●	●	●	●	FRA229	◍	◍	◍	◍	◍	◍		
FB	Test pneumatically operated safety control devices	●	●	●	●	●	FRA229	◍	◍	◍	◍	◍	◍		
FB	Wipe down handbrake	●	●	●	●	●	FRA229				●	●	●		
HP	Change oil in HEP gear box, use mobile #634	●	●	●	●	●	FRA229					●	●		
HP	Change out all Air Filters	●	●	●	●	●	FRA229		●	●	●	●	●		
HP	Change out all Oil, Fuel and Water filters	●	●	●	●	●	FRA229		●	●	●	●	●		
HP	Change water regulator	●	●	●	●	●	FRA229		●	●	●	●	●		
HP	Check and record the time shown on the HEP hours meter	●	●	●	●	●	FRA229			●	●	●	●		
HP	Check area around HEP plant for accumulation of oil and dirt, wipe down engine	●	●	●	●	●	FRA229	●	●	●	●	●	●		
HP	Check condition of HEP cables and recepticles	●	●	●	●	●	FRA229	●	●	●	●	●	●		
HP	Check cooling fan timing out	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Check HEP engine for oil, water, fuel and air leaks	●	●	●	●	●	FRA229	●	●	●	●	●	●		
HP	Check HEP frequency in normal and standby	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Check HEP line voltage in normal and standby	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Check HEP Plant for proper frequency at high run	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Check HEP plant for propoer voltage at high run	●	●	●	●	●	FRA229			◍	◍	◍	◍		

VEHICLE TYPE: LOCOMOTIVE, DIESEL **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)					REQUIREMENT	FREQUENCY							
		F40PH-2	F40PH-2C	F40PHM-2C	GP40MC	MP36PH-3C		DAILY	45 DAY	92 DAY	180 Day	1-Year	2-Year	1-Yr Air	3 Yr Air
HP	Check HEP plant for propoer voltage at idle	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Check oil level in HEP gear box, add if necessary	●	●	●	●	●	FRA229	●	●	●	●	●	●		
HP	Check operation of engine over temperature device	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Check operation of engine overspeed device	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Check operation of of engine low oil pressure device	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Check that exhaust blankets are secured in their proper place and functioning	●	●	●	●	●	FRA229	●	●	●	●	●	●		
HP	Clean all air water hoses on HEP	●	●	●	●	●	FRA229					●	●		
HP	Clean crankcase breather hose on HEP	●	●	●	●	●	FRA229					●	●		
HP	Drain lube oil and refill to full mark	●	●	●	●	●	FRA229		●	●	●	●	●		
HP	Inspect HEP generator plant for loose electrical connections	●	●	●	●	●	FRA229		●	●	●	●	●		
HP	Inspect HEP system for leaks, cracks, loose or missing bolts	●	●	●	●	●	FRA229	●	●	●	●	●	●		
HP	InspectHEP unit for damage, leaks, loose belts and hoses	●	●	●	●	●	FRA229	●	●	●	●	●	●		
HP	Load box HEP Plant engine	●	●	●	●	●	FRA229			●	●	●	●		
HP	Loop HEP 480 recepticles and check for proper operation	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Loop loco and see main cb closes	●	●	●	●	●	FRA229			◍		◍			
HP	Loop loco, HEP recepticles and see that main CB closes	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Run HEP plant and listen for unusual noise	●	●	●	●	●	FRA229		◍	◍	◍	◍	◍		
HP	Test HEP cabinet to Grd for path	●	●	●	●	●	FRA229				◍	◍	◍		
HP	Test operation of cooling fan temperature switches and Contacts	●	●	●	●	●	FRA229			◍	◍	◍	◍		
HP	Visually inspect Water pump seals for signs of leaks and water damage	●	●	●	●	●	FRA229	●	●	●	●	●	●		
HV	Change HVAC Filter	●	●	●	●	●	FRA229					●	●		
HV	Check operation of air conditioner	●	●	●	●	●	FRA229					◍	◍		
ME	Change all fuel filters, remove fuel suction strainer and clean	●	●	●	●	●	FRA229		●	●	●	●	●		
ME	Change all lube oil filters	●	●	●	●	●	FRA229		●	●	●	●	●		
ME	Change cooling system filter	●	●	●	●	●	FRA229		●	●	●	●	●		
ME	Change engine air filter elements and clean housing	●	●	●	●	●	FRA229		●	●	●	●	●		
ME	Change engine protector	●	●	●	●	●	FRA229					●	●		
ME	Change engine water pumps	●	●	●	●	●	FRA229					●	●		
ME	Change fuel filters	●	●	●	●	●	FRA229		●	●	●	●	●		
ME	Change fuel injectors	●	●	●	●	●	FRA229						●		
ME	Change lube oil, turbo and soakback oil filters	●	●	●	●	●	FRA229		●	●	●	●	●		
ME	Change main generator slip ring brushes	●	●	●	●	●	FRA229						●		
ME	Change out Salem Air Dryer	●	●	●	●	●	FRA229					●	●		
ME	Check air compressor oil level and bring to full mark	●	●	●	●	●	FRA229	●	●	●	●	●	●		
ME	Check all vital fluids to ensure that all are at the proper fill levels	●	●	●	●	●	FRA229	●							
ME	Check alternator diodes and fuses, replace as necessary	●	●	●	●	●	FRA229					●	●		
ME	Check antifreeze level and add if necessary	●	●	●	●	●	FRA229	●	●	●	●	●	●		
ME	Check cooling fans and shutters operation	●	●	●	●	●	FRA229		◍	◍	◍	◍	◍		
ME	Check cooling water level and treatment	●	●	●	●	●	FRA229	●	●	●	●	●	●		
ME	Check engine for Oil, Water, Fuel and Air leaks	●	●	●	●	●	FRA229	●	●	●	●	●	●		
ME	Check engine for proper speeds	●	●	●	●	●	FRA229					●	●		
ME	Check engine govenor oil level and bring to full mark	●	●	●	●	●	FRA229	●	●	●	●	●	●		
ME	Check engine lubrication oil level and bring to full mark	●	●	●	●	●	FRA229	●	●	●	●	●	●		
ME	Check engine overspeed mechanism for proper operation	●	●	●	●	●	FRA229					◍	◍		
ME	Check engine, main generator, accessory pack	●	●	●	●	●	FRA229					●	●		
ME	Check for air leaks around aftercooler duct flanges	●	●	●	●	●	FRA229					●	●		
ME	Check fuel gauge to ensure proper fill level	●	●	●	●	●	FRA229	●							
ME	Check internal air filter for obstructions	●	●	●	●	●	FRA229			●	●	●	●		

VEHICLE TYPE: LOCOMOTIVE, DIESEL **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)					REQUIREMENT	FREQUENCY							
		F40PH-2	F40PH-2C	F40PHM-2C	GP40MC	MP36PH-3C		DAILY	45 DAY	92 DAY	180 Day	1-Year	2-Year	1-Yr Air	3 Yr Air
ME	Check main engine notch speeds forward and reverse	●	●	●	●	●	FRA229			◐	◐	◐	◐		
ME	Check operation of engine protection devices	●	●	●	●	●	FRA229	◐	◐	◐	◐	◐	◐		
ME	Check pressure drop across aftercoolers and record readings	●	●	●	●	●	FRA229					◐	◐		
ME	Check rack settings, exhaust valve timing and injector timing	●	●	●	●	●	FRA229					◐	◐		
ME	Check radiator fins for plugged segments	●	●	●	●	●	FRA229			●	●	●	●		
ME	Check shutters for proper operation	●	●	●	●	●	FRA229		◐	◐	◐	◐	◐		
ME	Check Timing cycle			●			FRA229			◐		◐	◐		
ME	Check turbo and silencer anchor bolts	●	●	●	●	●	FRA229			●	●	●	●		
ME	Clean alternator inspection window and diode banks	●	●	●	●	●	FRA229					●	●		
ME	Clean crankcase breather	●	●	●	●	●	FRA229			◐	●	●	●		
ME	Clean main generator pit drain (Aspirator)	●	●	●	●	●	FRA229			●	●	●	●		
ME	Clean torpedo generator air intakes	●	●	●	●	●	FRA229					●	●		
ME	Inspect alternator slip ring brushes, diodes and fuses	●	●	●	●	●	FRA229				●	●	●		
ME	Inspect complete power assembly, include liners, pistons	●	●	●	●	●	FRA229					●	●		
ME	Inspect eductor tube for carbon deposits, clean as necessary	●	●	●	●	●	FRA229					●	●		
ME	Inspect engines for exhaust leaks and repair as required	●	●	●	●	●	FRA229	●							
ME	Inspect engines for fluid leaks. Repair leaks as required	●	●	●	●	●	FRA229	●							
ME	Inspect exhaust system for leaks, cracks, loose and/or missing bolts	●	●	●	●	●	FRA229	●	●	●	●	●	●		
ME	Inspect rotating equipment drives, shafts and gaurds	●	●	●	●	●	FRA229	●	●	●	●	●	●		
ME	Inspect top deck cover seals and latches, repair or replace	●	●	●	●	●	FRA229			●	●	●	●		
ME	Inspect turbo charger screen, remove and clean as necessary	●	●	●	●	●	FRA229					●	●		
ME	Lubricate shutter linkages check for binding and worn sections	●	●	●	●	●	FRA229								
ME	Main engine top deck inspection with engine running	●	●	●	●	●	FRA229		●	●	●	●	●		
ME	Measure pressure drop across carbody inertial filters	●	●	●	●	●	FRA229					◐	◐		
ME	Re torque air duct bolts, aftercooler air duct bolts	●	●	●	●	●	FRA229					●	●		
ME	Re torque engine, generator, air compressor and turbo	●	●	●	●	●	FRA229					●	●		
ME	Re torque exhaust manifold base bolts	●	●	●	●	●	FRA229				●	●	●		
ME	Remove and clean inertial air filters	●	●	●	●	●	FRA229					●	●		
ME	Remove and clean lube oil suction screen strainers use new	●	●	●	●	●	FRA229			●	●	●	●		
ME	Remove exhaust manifold inspection plate (parts catcher) and inspect screen trap	●	●	●	●	●	FRA229					●	●		
ME	Remove, inspect, check spring tension and service or change	●	●	●	●	●	FRA229				●	●	●		
ME	Replace Nelson Emmissions absorber sock	●	●	●	●	●	FRA229			●	●	●	●		
ME	Retorque exhaust manifold capscrews	●	●	●	●	●	FRA229					●	●		
ME	Take lub oil sample for laboratory analysis	●	●	●	●	●	FRA229		◐	◐	◐	◐	◐		
ME	Visually inspect cooling system pressure cap and filler neck	●	●	●	●	●	FRA229					●	●		
ME	Visually inspect locomotive for fuel, oil, air and water leakes	●	●	●	●	●	FRA229	●	●	●	●	●	●		
ME	With 20psi air pressure check radiators, hoses, clamps	●	●	●	●	●	FRA229			◐	◐	◐	◐		
ME	With fuel pump running inspect jumper lines, airbox Piston	●	●	●	●	●	FRA229			◐	◐	◐	◐		
PTC	Test the acess system. Use the appropriate map 8	●	●	●	●	●	FRA229					◐	◐		
PS	Check traction motor brushes, replace as necessary	●	●	●	●	●	FRA229					●	●		
PS	Drain condensation from traction motor support bearing caps	●	●	●	●	●	FRA229		●	●	●	●	●		
PS	Inspect all traction motor boots, clamps and ground straps	●	●	●	●	●	FRA229	●	●	●	●	●	●		
PS	Inspect all traction motor covers and felt gaskets	●	●	●	●	●	FRA229		●	●	●	●	●		
PS	Inspect all traction motors renew brushes as necessary	●	●	●	●	●	FRA229			●	●	●	●		
PS	Inspect gear cases, lubricate with gear compound as needed	●	●	●	●	●	FRA229		●	●	●	●	●		
PS	Inspect the contact segment of the motor brake switch gear for unusual wear, Burn marks, excessive pitting ETC. Change on a 3 year exam	●	●	●	●	●	FRA229					●	●		●
PS	Perform operational wheel slip test	●	●	●	●	●	FRA229	◐		◐	◐	◐	◐		
TS	Check alignment control coupler wear and coupler height	●	●	●	●	●	FRA229			●	●	●	●		

VEHICLE TYPE: LOCOMOTIVE, DIESEL **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)					REQUIREMENT	FREQUENCY							
		F40PH-2	F40PH-2C	F40PHM-2C	GP40MC	MP36PH-3C		DAILY	45 DAY	92 DAY	180 Day	1-Year	2-Year	1-Yr Air	3 Yr Air
TS	Check all Axle drives	●	●	●	●	●	FRA229	●	●	●	●	●	●		
TS	Check all sand hoses and tips	●	●	●	●	●	FRA229			●	●	●	●		
TS	Check all sand traps and piping	●	●	●	●	●	FRA229			●	●	●	●		
TS	Check operation of sander and repair as required	●	●	●	●	●	FRA229	●	◍	◍	◍	◍	◍		
TS	Check wheel report sheet for pilot height form CRM-3	●	●	●	●	●	FRA229			●	●	●	●		
TS	Inspect draft gear and safety appliances	●	●	●	●	●	FRA229	●	●	●	●	●	●		
TS	Inspect journal boxes for signs of dust and heat	●	●	●	●	●	FRA229	●	●	●	●	●	●		
TS	Inspect running gear, wheels, gear cases, axel caps etc	●	●	●	●	●	FRA229	●	●	●	●	●	●		
TS	Lubrication Truck center castings	●	●	●	●	●	FRA229								

VEHICLE TYPE: LOCOMOTIVE, DIESEL **INSPECTION TYPE:** OVERHAULS

TASK DESCRIPTION	APPLICABILITY TO FLEET TYPE (SERIES)					[redacted]	FREQUENCY		
	F40PH-2	F40PH-2C	F40PHM-2C	GP40MC	MP36PH-3C		3 YEAR	4 YEAR	6 YEAR
Traction Motor Replacement	●	●	●	●	●		●		
Auxiliary Generator Overhaul	●	●	●	●	●			●	
Cooling Fan Overhaul	●	●	●	●	●			●	
Dynamic Brake Blower Overhaul	●	●	●	●	●			●	
Battery Replacement	●	●	●	●	●			●	
HEP Replacement		●	●	●	●			●	
Top Deck Overhaul	●	●	●	●	●				●
Air Compressor Overhaul	●	●	●	●	●				●
HEP Gear Box/Alternator	●								●

MBTA MAINTENANCE PLAN
COMMUTER EQUIPMENT

Vehicle Location KEY:

AUXILIARY POWER SUPPLY APS
CAB CONTROLS CC
CARBODY EXTERIOR AND INTERIOR CB
COMMUNICATION CM
DOOR SYSTEM DS
MAIN ENGINE/AIR INTAKE/EXHAUST/COOLING SYSTEM ME
FRICTION BRAKE FB
HEP SYSTEM HP
HVAC SYSTEM HV
EVENT/ALERTER SYSTEM EV
POSITIVE TRAIN CONTROL / ATC / ACSES PTC
PROPULSION PS
TRUCK SUSPENSION/COUPLER DRAFT GEAR TS

COLOR KEY:
INSPECTION ●
REPLACE ●
CLEAN ●
LUBRICATE
TEST ◍

VEHICLE TYPE: MPI HSP 046 LOCOMOTIVE, DIESEL (2000-2019) **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	REQUIREMENT	FREQUENCY													
			DAILY	7-10 DAY	45 DAY	92 DAY	180 Day	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	10-Year	1-Yr Air	3 Yr Air
APS	Check Auxiliary Cabinet High Voltage Discharge Indicating LEDs	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
APS	Inspect Auxiliary Cabinet Blower Motor and Blowers	FRA229.25				●	●	●	●	●	●	●	●	●		
APS	Check Auxiliary Cabinet Door interrupt switches	FRA229.25				●	●	●	●	●	●	●	●	●		
APS	Test and Inspect Batteries	FRA229.25				◍	◍	◍	◍	◍	◍	◍	◍	◍		
APS	Inspect Battery Charger	FRA229.25				●	●	●	●	●	●	●	●	●		
APS	Inspect electrical equipment/cabinets for burned contact tips, burned wiring, loose or overheated electrical connections	FRA229.25					●	●	●	●	●	●	●	●		
APS	Grease Auxiliary Cabinet Blower Motor	FRA229.25														
APS	Lubricate equipment blowers bearings using GE spec D6A2C5	FRA229.25														
CC	Test CA1 Cabinet Indicator Lamps	FRA229.127	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Check Bell Operation	FRA229.25	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Test Operator's Console Indicator Lamps and Illuminated Switches	FRA229.127	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Test Operator's Console Switches	FRA229.25	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Check Air Brake Operation	FRA229.29	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Test Overhead Console Switches	FRA229.25	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Check Cab Interior Lights and Emergency Lights	FRA229.127	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Test Helper's Console Illuminated Switches	FRA229.25	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Test Helper's Console Switches	FRA229.25	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Check Wiper Operation	FRA229.25	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Inspect Fire Extinguishers	FRA 229	●	●	●	●	●	●	●	●	●	●	●	●		
CC	Check SDIS for SUMMARY messages. Investigate any message other than "READY" or "READY-Work Report Stored	OEM	●	●	●	●	●	●	●	●	●	●	●	●		
CC	Run Locomotive self-test if needed from SDIS	FRA229.25	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Run Manual Self-Test using the SDIS Panel	FRA229.25				◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Inspect Windshield Wiper Blades	FRA 229				●	●	●	●	●	●	●	●	●		
CC	Test CA1 Cabinet Switches	FRA229.25				◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Inspect CA1 Cabinet Circuit Breakers	FRA229.25				●	●	●	●	●	●	●	●	●		
CC	Check CA1 Cabinet Fans and Air Filter	FRA 229				●	●	●	●	●	●	●	●	●		
CC	Check Low Voltage System wiring for damaged insulation, short circuits and grounds	FRA229.25				●	●	●	●	●	●	●	●	●		
CC	Download and store Smart Display fault log. Run Manual self tests	FRA229.25				◍	◍	◍	◍	◍	◍	◍	◍	◍		
CC	Check smart display illumination bulb (if any), replace if necessary	FRA229.127				●	●	●	●	●	●	●	●	●		
CC	Inspect electrical equipment/cabinets for burned contact tips, burned wiring, loose or overheated electrical connections	FRA229.25					●	●	●	●	●	●	●	●		
CC	Replace auxiliary cab filters (if any)	FRA229.25					●	●	●	●	●	●	●	●		
CC	Check Fire Extinguisher	FRA 229						●	●	●	●	●	●	●		
CC	Replace CA1 Cabinet Air Filter	FRA 229						●	●	●	●	●	●	●		
CB	Inspect for Fuel Leaks	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Fuel Level/Add Fuel	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Door Latches	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Door Hinges	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Screens	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Handrails	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Grab Irons	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Ladders	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Walkways	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Draft Gear and Coupler Operation	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Inspect Cab Windows and Door Glazing	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		

Vehicle Location KEY:

AUXILIARY POWER SUPPLY **APS** | HEP SYSTEM **HP** | CAB CONTROLS **CC** | HVAC SYSTEM **HV** | CARBODY EXTERIOR AND INTERIOR **CB** | EVENT/ALERTER SYSTEM **EV** | COMMUNICATION **CM** | POSITIVE TRAIN CONTROL / ATC / ACSES **PTC** | DOOR SYSTEM **DS** | PROPULSION **PS** | MAIN ENGINE/AIR INTAKE/EXHAUST/COOLING SYSTEM **ME** | TRUCK SUSPENSION/COUPLER DRAFT GEAR **TS** | FRICTION BRAKE **FB**

COLOR KEY: INSPECTION ● | REPLACE ● | CLEAN ● | LUBRICATE | TEST ◐

VEHICLE TYPE: MPI HSP 046 LOCOMOTIVE, DIESEL (2000-2019) **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	REQUIREMENT	FREQUENCY													
			DAILY	7-10 DAY	45 DAY	92 DAY	180 Day	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	10-Year	1-Yr Air	3 Yr Air
CB	Check Interior and Exterior Lighting	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Inspect for loose bolts, nuts, and pipe joints. Tighten as needed	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
CB	Check Paint and Decals	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Check Long Hood Hatches/Caps	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Check Nose	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Check Carbody Side Doors, Rear Doors, and Interior Doors	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Inspect Draft Gear and Coupler	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Check Coupler Lateral Movement	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Inspect Knuckle for Anticreep Protection	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Inspect Coupler for Cracks	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Check Contour Condition	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Inspect Coupler Shank Wear Plate	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Inspect Coupler Shank	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Inspect Pin Hole Check Snow Plow	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Inspect Engine Intake Air Baggie Filters	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Replace Auxiliary Cabinet Paper Air Filters	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Replace HEP Cabinet Paper Air Filters	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Drain Fuel Tank of Water and Sediment	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Drain Retention Tank	FRA229.25				●	●	●	●	●	●	●	●	●		
CB	Check Operation of Emergency Fuel Cut-Off Switches	FRA229.25				◐	◐	◐	◐	◐	◐	◐	◐	◐		
CB	Replace Fuel Suction Strainer	FRA229.25					●	●	●	●	●	●	●	●		
CB	Replace Fuel Filter Elements	FRA229.25					●	●	●	●	●	●	●	●		
CB	Replace Engine Intake Air Baggie Filters	FRA229.25					●	●	●	●	●	●	●	●		
CB	Retention Tank Cleaning	FRA229.25						●	●	●	●	●	●	●		
CB	Inspect Inertial Air Filters	FRA229.25						●	●	●	●	●	●	●		
CB	Inspect Platform to trucks and end connection hoses, sand hoses and tarps.	FRA229.25						●	●	●	●	●	●	●		
CB	Check Free Slack of Draft Gear, Yoke, and Coupler	FRA229.25							●		●		●	●		
CB	Check Free Slack of Top-Operated Coupler Mechanism	FRA229.25							●		●		●	●		
CB	Remove and Clean Inertial Air Filters	FRA229.25										●		●		
CB	Auxiliary Cabinet Inertial Air Filters Removal and Gaskets/Seals Check	FRA229.25										●		●		
CB	HEP Inertial Air Filters Removal and Gaskets/Seals Check	FRA229.25										●		●		
CB	Engine Intake Air Inertial Air Filters Removal and Gaskets/SealsCheck	FRA229.25										●		●		
CB	Traction Motor Blower Inertial Air Filter Removal and Gaskets/SealsCheck	FRA229.25										●		●		
CM	Talk - Test Radio	FRA229.25			◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
CM	Test public address system and intercom	FRA229.25			◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
CM	Test the Cab signal system using the appropriate TCT forms	FRA229.25			◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
DS	Inspect electrical cabinet doors for damage, leaks and air compressor	FRA238.307			●	●	●	●	●	●	●	●	●	●		
DS	Lubricate all door hinges locks cabinet doors and miscelaneous	FRA238.307														
EV	Test the operation of event recorder and speed indicator	FRA229.27			◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
EV	Check Map-9 for defects	FRA229.27				●	●	●	●	●	●	●	●	●		
EV	Change out event recorder/alerter overspeed magnet valve	FRA229.27								●			●			
FB	Check Air Compressor Lube Oil Level	FRA 229	●	●	●	●	●	●	●	●	●	●	●	●		
FB	Perform Brake Pipe Leakage	FRA 229	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
FB	Test Perform Standing Brake	FRA 229	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
FB	Test Check Automatic/Manual Drain Valve Operation	FRA 229	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		

MBTA MAINTENANCE PLAN
COMMUTER EQUIPMENT

Vehicle Location KEY:			
AUXILIARY POWER SUPPLY	APS	HEP SYSTEM	HP
CAB CONTROLS	CC	HVAC SYSTEM	HV
CARBODY EXTERIOR AND INTERIOR	CB	EVENT/ALERTER SYSTEM	EV
COMMUNICATION	CM	POSITIVE TRAIN CONTROL / ATC / ACSES	PTC
DOOR SYSTEM	DS	PROPULSION	PS
MAIN ENGINE/AIR INTAKE/EXHAUST/COOLING SYSTEM	ME	TRUCK SUSPENSION/COUPLER DRAFT GEAR	TS
FRICTION BRAKE	FB		

COLOR KEY:	
INSPECTION	●
REPLACE	●
CLEAN	●
LUBRICATE	
TEST	◍

VEHICLE TYPE: MPI HSP 046 LOCOMOTIVE, DIESEL (2000-2019) **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	REQUIREMENT	FREQUENCY													
			DAILY	7-10 DAY	45 DAY	92 DAY	180 Day	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	10-Year	1-Yr Air	3 Yr Air
FB	Check Final Filter Manual Drain Valve Operation	FRA 229	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
FB	Inspect Sanding Nozzles	FRA229.131	●	●	●	●	●	●	●	●	●	●	●	●		
FB	Check sand box for level of sand and refill as necessary	FRA229.131	●	●	●	●	●	●	●	●	●	●	●	●		
FB	Check Horn Operation	FRA229.25	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
FB	Inspect TBU and Brake Shoes	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
FB	Inspect Inlet and Outlet Screens	FRA229.25	●	●	●	●	●	●	●	●	●	●	●	●		
FB	Check Drain Cleanouts	FRA229.25				●	●	●	●	●	●	●	●	●		
FB	Check Dynamic Brake Blower Operation (Self-Load Test)	FRA229.25				◍	◍	◍	◍	◍	◍	◍	◍	◍		
FB	Inspect TBU and Air Hoses	FRA229.25				●	●	●	●	●	●	●	●	●		
FB	Check/Drain Air Compressor Intercooler	FRA229.25				●	●	●	●	●	●	●	●	●		
FB	Inspect and Clean Air Compressor Motor	FRA229.25				●	●	●	●	●	●	●	●			
FB	Air Pressure Gauge Calibration	FRA229.25				◍	◍	◍	◍	◍	◍	◍	◍	◍		
FB	Check J-1 Safety Valve	FRA229.25				●	●	●	●	●	●	●	●	●		
FB	Inspect/Calibrate Air Gauges	FRA229.25				●	●	●	●	●	●	●	●	●		
FB	Inspect Air Dryer	FRA229.25				●	●	●	●	●	●	●	●	●		
FB	Inspect Air Hoses	FRA229.25				●	●	●	●	●	●	●	●	●		
FB	Inspect Sanding Control Valve	FRA229.131				●	●	●	●	●	●	●	●	●		
FB	Inspect Sand Trap	FRA229.25				●	●	●	●	●	●	●	●	●		
FB	Inspect Shutter Magnet Valves	FRA229.25				●	●	●	●	●	●	●	●	●		
FB	Air Compressor Lube Oil Sampling	FRA229.25					◍	◍	◍	◍	◍	◍	◍	◍		
FB	Check Operation of Unloaders and Rapid Unloader Valve	FRA229.25					◍	◍	◍	◍	◍	◍	◍	◍		
FB	Check Intercooler/Aftercooler	FRA229.25					●	●	●	●	●	●	●	●		
FB	Check Air Compressor Air Inlet Filter	FRA229.25					●	●	●	●	●	●	●	●		
FB	Check Dynamic Brake Blower Motor commutator surface, Brushes condition and length	FRA229.46					●	●	●	●	●	●	●	●		
FB	Check compressor control panel contactores, relays and position sensors for proper operation	FRA 229						●	●	●	●	●	●	●		
FB	Lubricate dynamic brake blower bearing	FRA229.46														
FB	Check Dynamic Brake Blower Motors	FRA229.46						●	●	●	●	●	●	●		
FB	Inspect and Clean Dynamic Brake Grid Resistors	FRA229.46						●	●	●	●	●	●	●		
FB	Air Compressor Lube Oil Replacement	FRA229.46						●	●	●	●	●	●	●		
FB	Replace Air Compressor Air Inlet Filter	FRA229.46						●	●	●	●	●	●	●		
FB	Inspect Air Compressor Motor	FRA229.46						●	●	●	●	●	●	●		
FB	Check Compressor Motor Winding and Insulation Resistance	FRA229.46						◍	◍	◍	◍	◍	◍	◍		
FB	Lubricate Cab Handle Unit	FRA229.46														
FB	Replace Main Reservoir Air Filter on POU	FRA229.46						●	●	●	●	●	●	●		
FB	Replace D. L. Line Filters on POU	FRA229.46						●	●	●	●	●	●	●		
FB	Check Dual Valve Assembly	FRA229.46						●	●	●	●	●	●	●		
FB	Replace Final Air Filter Elements	FRA229.46						●	●	●	●	●	●	●		
FB	Replace Air Dryer Coalescing Filter	FRA229.46						●	●	●	●	●	●	●		
FB	Replace Air Compressor Crankcase Breather Valve (Diaphragm)	FRA229.46							●		●		●	●		
FB	Replace Air Horn Diaphragm Disc	FRA229.46							●		●		●	●		
FB	Overhaul Tread Brake Unit	FRA229.46								●			●			●
FB	Replace Dual Valve Assembly	FRA229.46									●					
FB	Replace Check Valve	FRA229.46									●					
FB	Replace Automatic/Manual Drain Valve	FRA229.46									●					
FB	Replace J-1 Safety Valve	FRA229.46									●					

MBTA MAINTENANCE PLAN
COMMUTER EQUIPMENT

Vehicle Location KEY:				COLOR KEY:	
AUXILIARY POWER SUPPLY	APS	HEP SYSTEM	HP	INSPECTION	●
CAB CONTROLS	CC	HVAC SYSTEM	HV	REPLACE	●
CARBODY EXTERIOR AND INTERIOR	CB	EVENT/ALERTER SYSTEM	EV	CLEAN	●
COMMUNICATION	CM	POSITIVE TRAIN CONTROL / ATC / ACSES	PTC	LUBRICATE	
DOOR SYSTEM	DS	PROPULSION	PS	TEST	◐
MAIN ENGINE/AIR INTAKE/EXHAUST/COOLING SYSTEM	ME	TRUCK SUSPENSION/COUPLER DRAFT GEAR	TS		
FRICTION BRAKE	FB				

VEHICLE TYPE: MPI HSP 046 LOCOMOTIVE, DIESEL (2000-2019) **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	REQUIREMENT	FREQUENCY													
			DAILY	7-10 DAY	45 DAY	92 DAY	180 Day	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	10-Year	1-Yr Air	3 Yr Air
FB	Replace Final Air Filter Manual Drain Valve	FRA229.46									●					
FB	Replace No. 8 Vent Valves	FRA229.46									●					
FB	Replace Pressure Switches	FRA229.46									●					
FB	Replace Magnet Valves	FRA229.46									●					
FB	Replace Horn Magnet Valve	FRA229.46									●					
FB	Shutter Air Cylinder Replacement	FRA229.46									●					
FB	Replace Shutter Magnet Valves	FRA229.46									●					
FB	Replace Compressor Control Magnet Valve	FRA229.46									●					
FB	Check Dynamic Brake Grid Resistors	FRA229.46										●		●		
FB	Overhaul Air Compressor	FRA229.46											●			
FB	Air Dryer Replacement	FRA229.46											●			
FB	Remove and Install Air Dryer Humidity Indicator	FRA229.46											●			
FB	Check Dynamic Brake Grid Blowers	FRA229.46											●			
HP	Check HEP Cabinet High Voltage Discharge Indicating LEDs	FRA229.25	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
HP	Inspect HEP Cabinet Blower	FRA229.25				●	●	●	●	●	●	●	●	●		
HP	Test HEP Remote Control Panel Indicator Lamps	FRA229.25				◐	◐	◐	◐	◐	◐	◐	◐	◐		
HP	Test HEP Remote Control Panel Switches	FRA229.25				◐	◐	◐	◐	◐	◐	◐	◐	◐		
HP	Inspect Layover Control Box Circuit Breakers	FRA229.25				●	●	●	●	●	●	●	●	●		
HP	Inspect Layover Control Box Fuse and Contactors	FRA229.25				●	●	●	●	●	●	●	●	●		
HP	Inspect HEP AC Contactor	FRA229.25				●	●	●	●	●	●	●	●	●		
HP	Check HEP Cabinet Door Interrupt Switches	FRA229.25				●	●	●	●	●	●	●	●	●		
HP	Grease HEP Blower	FRA229.25														
HP	Inspect electrical equipment/cabinets for burned contact tips, burned wiring, loose or overheated electrical connections	FRA229.25					●	●	●	●	●	●	●	●		
HP	Check temperature switch operation	FRA229.25						◐	◐	◐	◐	◐	◐	◐		
HP	Lubricate HEP Blower bearings	FRA229.25														
HP	Change BE1-951 Backup Battery	FRA229.25										●		●		
HV	Replace HVAC Air Filter	FRA229.25				●	●	●	●	●	●	●	●	●		
HV	Clean Evaporator and Condenser Coils	FRA229.25					●	●	●	●	●	●	●	●		
HV	Overall HVAC Unit Cleaning and Sight Glass Check	FRA229.25						◐	◐	◐	◐	◐	◐	◐		
ME	Check Cooling System Coolant Level	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check Cooling System for Leaks	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check Expansion Tank for Leaks	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check flexible motor air ducts for leaks	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Inspect Cooling Fans	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check Operation of Layover Protection System	FRA229.101	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
ME	Visually inspect turbocharger discharge ducts for tears or holes in the silicone layer. Replace if damage is found	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check the Engine coolant level using sight glass.	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check Engine oil level at engine IDLE.	FRA229.101	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
ME	Check Exhaust Manifold and Bellows for leaks, cracks, and broken welds	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Inspect fuel lines for damage, leaks and excessive vibration due to loose clamps.	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Visually inspect fuel hoses to/from the fuel priming pump in the radiator cab	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Ensure that the Maintenance Relief valve is tightly closed.	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check Lube Oil Level	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check Prelube Pump Operation	FRA229.101	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		

Vehicle Location KEY:

AUXILIARY POWER SUPPLY APS	HEP SYSTEM HP
CAB CONTROLS CC	HVAC SYSTEM HV
CARBODY EXTERIOR AND INTERIOR CB	EVENT/ALERTER SYSTEM EV
COMMUNICATION CM	POSITIVE TRAIN CONTROL / ATC / ACSES PTC
DOOR SYSTEM DS	PROPULSION PS
MAIN ENGINE/AIR INTAKE/EXHAUST/COOLING SYSTEM ME	TRUCK SUSPENSION/COUPLER DRAFT GEAR TS
FRICTION BRAKE FB	

COLOR KEY:
INSPECTION ●
REPLACE ●
CLEAN ●
LUBRICATE
TEST ◍

VEHICLE TYPE: MPI HSP 046 LOCOMOTIVE, DIESEL (2000-2019) **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	REQUIREMENT	FREQUENCY													
			DAILY	7-10 DAY	45 DAY	92 DAY	180 Day	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	10-Year	1-Yr Air	3 Yr Air
ME	Check Lube Oil Cooler for Leaks	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check Automatic Oil Filter for Leaks	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Check Centrifugal Oil Filter for Leaks	FRA229.101	●	●	●	●	●	●	●	●	●	●	●	●		
ME	Listen while engine is idling for any unusual noise. In such case make visual inspection with all doors open.	FRA229.101	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
ME	Collect an Engine oil sample every seven to ten days. Make a complete laboratory analysis to determine if oil is suitable for continued use. Top up to full with approved lubrication oil	FRA229.101		◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	◍	
ME	Ensure that the water separator drain tank is serviced	FRA229.101		●	●	●	●	●	●	●	●	●	●	●	●	
ME	Obtain Lubricating Oil Sample	FRA229.101			◍	◍	◍	◍	◍	◍	◍	◍	◍	◍		
ME	Clean engine lubricating –oil filter housing, change oil and install new filters	FRA229.101				●	●	●	●	●	●	●	●	●		
ME	Download engine data and statistics.	FRA229.101				●	●	●	●	●	●	●	●	●		
ME	Perform the engine pop test or DCD test. Investigate any engine cylinders that do not pop properly.	FRA229.101				◍	◍	◍	◍	◍	◍	◍	◍	◍		
ME	Check Automatic Oil Filter Operation	FRA229.101				◍	◍	◍	◍	◍	◍	◍	◍	◍		
ME	Alternator: Inspect surface conditions of collector rings. Check brushes for brush length and surface condition.	FRA229.101				●	●	●	●	●	●	●	●	●		
ME	Test Coolant for Proper Chemical Mixture	FRA229.101				◍	◍	◍	◍	◍	◍	◍	◍	◍		
ME	Inspect Cooling Fan Assembly	FRA229.101				●	●	●	●	●	●	●	●	●		
ME	Inspect Exhauster Blower	FRA229.101				●	●	●	●	●	●	●	●	●		
ME	Inspect Layover Protection System	FRA229.101				●	●	●	●	●	●	●	●	●		
ME	Inspect cooling system oil and water metal hoses and pipe connections, between the engine cab and radiator cab for leaks, inspect coupling connections for cracks	FRA229.101				●	●	●	●	●	●	●	●	●		
ME	Clean Centrifugal Oil Filter	FRA229.101				◍	●	●	◍	●	◍	●	◍	●		
ME	Change Lube Oil	FRA229.101					◍	●	●	●	●	●	●	●		
ME	Inspect turbo ducts for broken clamps, replace if necessary	FRA229.101					●	●	●	●	●	●	●	●		
ME	Clean the crankcase eductor tube.	FRA229.101					◍	●	●	◍	●	●	●	●		
ME	Replace the fuel oil strainer (if equipped).	FRA229.101					●	●	●	●	●	●	●	●		
ME	Replace the fuel filter element	FRA229.101					●	●	●	●	●	●	●	●		
ME	Visually inspect the coalescer hoses for tears or holes in the silicone layer.	FRA229.101					●	●	●	●	●	●	●	●		
ME	Inspect oil pipe connections between Engine and Rad Cab for oil leaks. Inspect Victaulic connections for cracks.	FRA229.101					●	●	●	●	●	●	●	●		
ME	Visually inspect all engine crankcase components.	FRA229.101						●	●	●	●	●	●	●		
ME	Check engine valves lash and adjust as necessary.	FRA229.101						●	●	●	●	●	●	●		
ME	Replace the water separator cartridge.	FRA229.101						●	●	●	●	●	●	●		
ME	Check temperature switches operation	FRA229.101						◍	◍	◍	◍	◍	◍	◍		
ME	Grease Exhauster Blower	FRA229.101														
ME	Check Lube Oil Temperature Differential	FRA229.101						●	●	●	●	●	●	●		
ME	Check Lube Oil Pressure Differential	FRA229.101						●	●	●	●	●	●	●		
ME	Check Automatic Drain Valve	FRA229.101						●	●	●	●	●	●	●		
ME	Inspect Pressure Cap	FRA229.101						●	●	●	●	●	●	●		
ME	Clean Radiator Screens	FRA229.101						◍	◍	◍	◍	◍	◍	◍		
ME	Inspect and Clean Radiators	FRA229.101						●	●	●	●	●	●	●		
ME	Check Cooling Fan Assembly Insulation Resistance	FRA229.101						◍	◍	◍	◍	◍	◍	◍		
ME	Clean Interior of Heating Tank and Heating Element	FRA229.101						●	●	●	●	●	●	●		
ME	Grease Layover Lube Oil Pump Motor Bearings	FRA229.101														
ME	Lubricate Alternator blower bearings using GE spec D6A2C5	FRA229.101														
ME	Lubricate Exhauster blowers bearings using GE spec D6A2C5	FRA229.101														
ME	Lubricate Main Alternator bearing using GE spec D6A2C10	FRA229.101														

MBTA MAINTENANCE PLAN
COMMUTER EQUIPMENT

Vehicle Location KEY:			
AUXILIARY POWER SUPPLY APS		HEP SYSTEM HP	
CAB CONTROLS CC		HVAC SYSTEM HV	
CARBODY EXTERIOR AND INTERIOR CB		EVENT/ALERTER SYSTEM EV	
COMMUNICATION CM		POSITIVE TRAIN CONTROL / ATC / ACSES PTC	
DOOR SYSTEM DS		PROPULSION PS	
MAIN ENGINE/AIR INTAKE/EXHAUST/COOLING SYSTEM ME		TRUCK SUSPENSION/COUPLER DRAFT GEAR TS	
FRICTION BRAKE FB			

COLOR KEY:
INSPECTION: ●
REPLACE: ●
CLEAN: ●
LUBRICATE
TEST: ●

VEHICLE TYPE: MPI HSP 046 LOCOMOTIVE, DIESEL (2000-2019) **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	REQUIREMENT	FREQUENCY													
			DAILY	7-10 DAY	45 DAY	92 DAY	180 Day	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	10-Year	1-Yr Air	3 Yr Air
ME	Inspect Cooling system for oil and corrosion & clean as necessary	FRA229.101						●	●	●	●	●	●	●		
ME	Replace fuel injectors	FRA229.101						●		●	●		●			
ME	Check Prelube Pump and Motor	FRA229.101							●		●		●	●		
ME	Automatic Drain Valve Replacement	FRA229.101							●		●		●	●		
ME	Pressure Cap Replacement	FRA229.101							●		●		●	●		
ME	Visually inspect Fuel Heater (if equipped) for any leaks, corrosion, damaged gaskets.	FRA229.101							●		●		●	●		
ME	Flush and Fill Cooling System	FRA229.101								●			●			
ME	Replace Coupling—Victaulic/Flexmaster/Marmon Gaskets	FRA229.101								●			●			
ME	Check Condition of Automatic Oil Filter Elements	FRA229.101									●					
ME	Overhaul/Remove Lube Oil Cooler	FRA229.101												●		
ME	Overhaul Fan Motor	FRA229.101												●		
ME	Drain and Replace Coolant	FRA229.101												●		
ME	Replace Pump Seals	FRA229.101												●		
ME	Reset Motor Protector Switches	FRA229.101												◐		
ME	Check all vital fluids to ensure that all are at the proper fill levels	FRA229.101	●													
ME	Inspect engines for fluid leaks. Repair leaks as required	FRA229.101	●													
ME	Check fuel gauge to ensure proper fill level	FRA229.101	●													
ME	Inspect engines for exhaust leaks and repair as required	FRA229.101	●													
PTC	ATC Departure Test	FRA229.140	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	ACSES Departure Test	FRA229.140	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	Visual Inspection of ATC and ACSES Components	FRA229.140				●	●	●	●	●	●	●	●	●		
PTC	ATC Track Receiver Height Inspection	FRA229.140				●	●	●	●	●	●	●	●	●		
PTC	ACSES Transponder Antenna Height Inspection	FRA229.140				●	●	●	●	●	●	●	●	●		
PTC	ACSES Transponder Antenna Test	FRA229.140				◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	ATC and ACSES Ground Fault Inspection	FRA229.140				◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	ATC and ACSES Power Supply Inspection	FRA229.140				●	●	●	●	●	●	●	●	●		
PTC	ATC Filter/amplifier calibration check	FRA229.140				◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	ATC Decelerometer Calibration	FRA229.140				◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	ATC Aspects/Overspeed Points Validation	FRA229.140				◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	ATC Acknowledge time verification	FRA229.140				◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	ATC Brake application time verification	FRA229.140				◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	ATC Backup Battery Voltage check	FRA229.140				◐	◐	◐	◐	◐	◐	◐	◐	◐		
PTC	Inspect electrical equipment/cabinets for burned contact tips, burned wiring, loose or overheated electrical connections	FRA229.25				●	●	●	●	●	●	●	●	●		
PS	Check Traction Motor Power Leads for abrasion damage and rubbing against other cables or truck parts. Verify connections are tight.	FRA229.25				●	●	●	●	●	●	●	●	●		
PS	Inspect Gear Case for mechanical damage.	FRA229.25				●	●	●	●	●	●	●	●	●		
PS	Check Gear Case for damaged or missing fill or drain plugs. Clean metal particles from drain plug if removed	FRA229.25				●	●	●	●	●	●	●	●	●		
PS	Inspect entire Traction motor/gear case combo for excessive oil leakage (TractionvMotor seals, motor shaft/axle gearcase seal interface areas, for streaks on gear case flank, seepage or leaks at split joint.	FRA229.25				●	●	●	●	●	●	●	●	●		
PS	Check oil level. Fill to bottom of filler opening. If oil loss greater than limits, remove combo and inspect.	FRA229.25				●	●	●	●	●	●	●	●	●		
PS	Gear Case Inspect gear case mounting bolts for tightness by hand or wrench. Visually check for any gap in the joint, perform a hammer test or use a 0.005 inch feeler gauge to see if it will fit under the bolt head or washer. If loose, broken or missing, replace with new of same design and grade.	FRA229.25				●	●	●	●	●	●	●	●	●		
PS	Check accessible gear case split line bolts for looseness	FRA229.25				●	●	●	●	●	●	●	●	●		

MBTA MAINTENANCE PLAN
COMMUTER EQUIPMENT

Vehicle Location KEY:

AUXILIARY POWER SUPPLY **APS** | CAB CONTROLS **CC** | CARBODY EXTERIOR AND INTERIOR **CB** | COMMUNICATION **CM** | DOOR SYSTEM **DS** | MAIN ENGINE/AIR INTAKE/EXHAUST/COOLING SYSTEM **ME** | FRICTION BRAKE **FB**

HEP SYSTEM **HP** | HVAC SYSTEM **HV** | EVENT/ALERTER SYSTEM **EV** | POSITIVE TRAIN CONTROL / ATC / ACSES **PTC** | PROPULSION **PS** | TRUCK SUSPENSION/COUPLER DRAFT GEAR **TS**

COLOR KEY:

INSPECTION ● | REPLACE ● | CLEAN ● | LUBRICATE | TEST ◎

VEHICLE TYPE: MPI HSP 046 LOCOMOTIVE, DIESEL (2000-2019) **INSPECTION TYPE:** SCHEDULED

VEHICLE LOCATION	TASK DESCRIPTION	REQUIREMENT	FREQUENCY													
			DAILY	7-10 DAY	45 DAY	92 DAY	180 Day	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	10-Year	1-Yr Air	3 Yr Air
PS	Inspect electrical equipment/cabinets for burned contact tips, burned wiring, loose or overheated electrical connections	FRA229.25					●	●	●	●	●	●	●	●		
PS	Inspect U-tube to traction motor mounting bolts for tightness	FRA229.25						●	●	●	●	●	●	●		
PS	Drain and refill gearcase	FRA229.25						●	●	●	●	●	●	●		
PS	When removing wheels, visually inspect traction motors	FRA229.25							●		●		●	●		
PS	When removing wheels, remove traction motor connection end bearing cap, inspect and re-grease bearing	FRA229.25														
PS	When removing wheels, renew traction motor support bearing grease	FRA229.25														
PS	When renewing wheels, visually inspect and run motor with no load, check armature bearings for unusual noise & binding, vibration,. Check commutator smoothness, resurface if necessary. Clean insulators, blow out debris.	FRA229.25							◎		◎		◎	◎		
PS	When renewing wheels, renew gearcase seals. Drain and refill gearcase	FRA229.25							●		●		●	●		
PS	When renewing wheels, clean and inspect pinion and axle gear for wear or damage	FRA229.25							●		●		●	●		
TS	Inspect Truck Assembly	FRA229.67	●	●	●	●	●	●	●	●	●	●	●	●		
TS	Inspect Wheels	FRA229.67	●	●	●	●	●	●	●	●	●	●	●	●		
TS	Inspect Axle Generator	FRA229.67	●	●	●	●	●	●	●	●	●	●	●	●		
TS	Inspect Sand nozzles, ensure sand pipes are aligned properly and sanders operate properly	FRA229.67	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		
TS	Inspect wheels: wheel rim versus witness, groove, flat spots, shelled treads, cracks	FRA229.67	●	●	●	●	●	●	●	●	●	●	●	●		
TS	Inspect and Clean Truck Assembly	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Inspect Traction Pivot and Traction Post Assembly	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Inspect Journal Boxes and Pedestal Liners	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Inspect Journal Adapter Bump Stops	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Check Secondary Spring Seats	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Check Traction Pivot Wear Plates	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Check Traction Pivot Lateral Bump Stops	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Inspect Dampers	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Check Secondary Suspension Springs	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Check Primary Suspension Springs	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Check Traction Pivot Springs	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Measure Wheels	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Verify Traction Motor suspension link mounting bolts are still in place, verify that huck pin and collar are present	FRA229.67				●	●	●	●	●	●	●	●	●		
TS	Check Pivot Post Wear Liner	FRA229.67						●	●	●	●	●	●	●		
TS	Check Pivot Post Wear Ring	FRA229.67						●	●	●	●	●	●	●		
TS	Inspect and lubricate journal bearings when changing wheels	FRA229.67														
TS	When changing wheels, Clean U-Tube bearings grease fittings and apply 43 oz (1200g) of D50E28 (Mobilith SHC460) U-tube bearing grease to PE bearingand 26 oz. (750 g) to CE bearing while rotating axle. Excess grease will exit the seals and may be wiped off	FRA229.67							◎		◎		◎	◎		
TS	Vertical Damper Replacement	FRA229.67								●			●			
TS	Yaw Damper Replacement	FRA229.67								●			●			
TS	Lateral Damper Replacement	FRA229.67								●			●			
CB	Undertake Class C Vehicle Clean	MBTA	●													
CB	Undertake Class B Vehicle Clean	MBTA				●	●									
CB	Undertake Class A Vehicle Clean	MBTA						●	●	●	●	●	●	●	●	●

Cost Maintenance Schedule Placeholder #1

Cost Maintenance Schedule Placeholder #2

Cost Maintenance Schedule Placeholder #3

4.C Best Practices Support

Initiative	Section	Category	Validating Information
World Class Operations & Maintenance	3	Innovative, Best Practice, Beneficial to MBTA Customer, Cost Efficient	Holistic next generation maintenance approach developed by Bombardier. Proven success and improvement where implemented – See Client Praise from Virgin Trains in Section 3
Driving Cultural Change/ People Engagement	3	Best Practice, Beneficial to MBTA Customer, Cost Efficient	Many Studies completed on the benefits of people engagement. Link to one from British Psychological Society http://dop.bps.org.uk/organisations/insights-research/the-business-benefits-of-employee-engagement$.cfm
Reorganized Management Structure to support WCO&M	3	Best Practice, Beneficial to MBTA Customer, Cost Efficient	The reorganized management structure supports a team that works together having Reliability Management and Continuous Improvement built in to the top level of the organization
Safety Management	3	Best Practice, Beneficial to MBTA Customer, Cost Efficient	Our safety management system promotes a cultural change and has been used by Bombardier at their sites which have impressive safety records; for example, South New Jersey RiverLINE has gone 8+ years without a lost time injury
Maintenance Operations Control Center	4.A.1	Innovative, Best Practice, Beneficial to MBTA Customer, Cost Efficient	Proven to be effective at Virgin Trains in the UK. Real time understanding allows proactive management not reactive
Balanced Maintenance Strategy	4.A.1	Best Practice, Beneficial to MBTA Customer, Cost Efficient	Critical to establishing effective facility utilization, manpower requirements (when and where), maximizing vehicle availability and reliability
Life Cycle Maintenance (LCM Evolution to RCM approach)	4.A.2	Innovative, Best Practice, Beneficial to MBTA Customer, Cost Efficient	True establishment of components actual reliability determined with MDBCF tracking to achieve MBTA goal of 100% reliability

Initiative	Section	Category	Validating Information
Dedicated South Side and North Side Vehicle Maintenance	4.A.2	Innovative, Best Practice, Cost Efficient	Our plan discussed in 4.A.2 makes effective use of our manpower and facilities, equipment availability, and improved processes for performing inspections
Mechanical/Transportation collaboration	4.A.2	Innovative, Best Practice, Beneficial to MBTA Customer, Cost Efficient	See section 4.A.2 for description of Terminal Service Clocks and train standardization
Mobile Fueling Truck at CRMF	4.A.4	Innovation, Cost Efficient	Cost effectiveness achieved versus installing an additional fixed fuel stanchion. This innovation provides flexibility and improved efficiency as described in section 4.A.4
Maintenance Scheduling and Shift Reallocation	4.A.4	Best Practice, Cost Efficient	Achieves effective manpower and facility utilization. Combined with balanced maintenance strategy maximizes available time to perform maintenance activities increasing throughput time
Failure Review Board	4.A.8	Innovative, Best Practice, Beneficial to MBTA Customer, Cost Efficient	Understand problems and use root cause analysis to provide solutions. Detailed in section 4.A.8 under Performance Analysis and Reporting. Improvements at Virgin Trains listed in section 3
Alternating Current Field Measurement Technology	4.A.9	Innovative, Cost Efficient	Allows understanding of defect depth in wheels thereby avoiding under/over cutting when truing wheels
Sentio Technology	4.A.9	Innovative, Best Practice, Beneficial to MBTA Customer, Cost Efficient	Provides on-demand access to troubleshooting with use of hand-held technology; step-by-step repair solutions available to all mechanical staff
New Fleet Technology Experience - Bombardier	4.A.9	Innovative, Best Practice, Beneficial to MBTA Customer, Cost Efficient	Experience provided by Bombardier with MPI and Rotem equipment is unmatched and not available to any other competitor.

Summary

This document details the strengths and competitive advantages that MBCR has acquired over our 10 years serving MBTA as a valued customer. Our expertise and experience combined with a next generation maintenance approach make us the very best choice as a partner for the future. We will meet and or exceed the RFP requirements, and we are pleased to respond with a comprehensive, concrete and actionable plan that will meet the MBTA's objectives.

Our approach to maintenance will dramatically change, moving from a more traditional approach to the advanced maintenance principles of WCO&M. This next generation approach takes MBTA to the future of rail maintenance and will place it among the top Commuter Rail agencies in North America. We have the ability, resources and drive to implement change; for example, a specialized team to implement, train and mentor WCO&M methods to improve our safety culture and drive cultural change within the organization. We are structured to provide continuous improvement throughout the organization providing MBTA and its customers with improved service day after day and year after year. Further explanation of the contrast between WCO&M and Traditional Maintenance methodologies is included in Supplemental Appendix 2 – Mechanical.

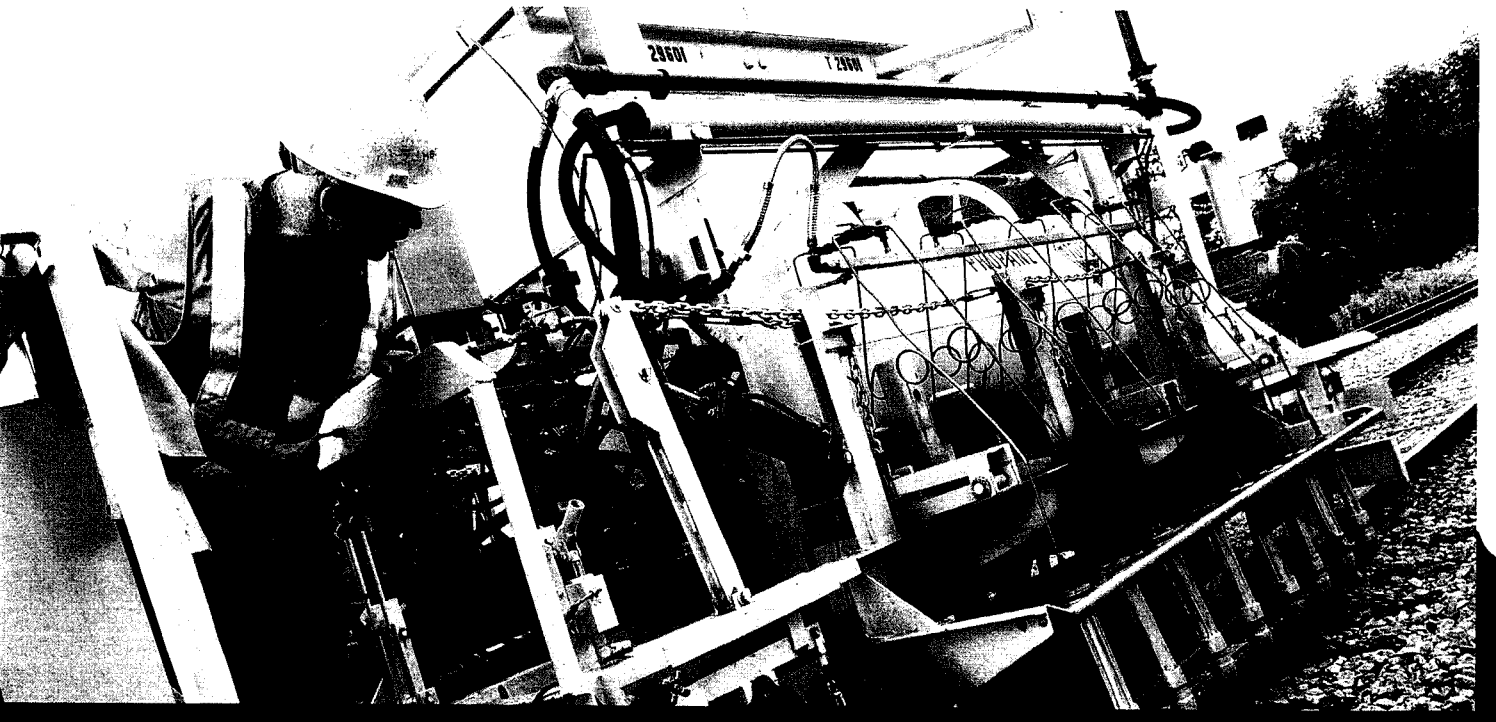
Our Mechanical Services Plan will achieve MBTA's objectives such as maximum equipment availability and reliability, preservation of asset values and focus on customer and employee safety. It will achieve the objectives for cost-effective facility utilization, work scheduling and integration of new fleet technologies. Looking at the nine elements of WCO&M, every element contributes to the maintenance organization we believe the MBTA wants.

Our Mechanical Department has already celebrated recent successes such as a 33% reduction in accidents, a significant improvement in HVAC reliability, and ISO-9001 certification in the Truck Shop, Traction Motor Shop and Wheel Truing Machine. Moving forward, we will provide even greater real-time visibility through the implementation of additional Key Performance Indicators, which will also inform and drive our management decisions and priorities. As we implement the WCO&M program in tandem with our Life Cycle Maintenance approach, we are confident we will achieve increasingly and continuously improved levels of safety, reliability, availability, on-time performance and customer satisfaction, while optimizing costs.

MBCR has enjoyed a 10 year relationship with MBTA. We are excited at the opportunity to continue this partnership and provide MBTA with a World Class Commuter Rail System.

Section 5

Engineering Services Plan Evaluation Factor Information



MBCR

Section 5 – Engineering Services Plan Evaluation Factor Information

Overview

1. MBTA Objectives

A. An Operator with the organizational and technical ability to inspect, maintain, repair and install the full range of right of way, bridge, signal and facility assets

B. Execution of engineering work with an integrated approach to safety management and hazard reduction

C. Engineering approach that preserves and prolongs asset lifespans

D. Cost effective work scheduling and integration of new technologies

An Engineering team with the right management, motivation, skills and experience can fulfill the MBTA's objectives of system safety, protection of assets, new technology and all of the customer and operational benefits that flow from targeted and timely investments in infrastructure. Over the last decade, MBCR Engineering has done an excellent job of maintaining track, signals, fixed facilities and other assets that make up the MBTA Commuter Rail system. In addition, we have made strategic improvements that have contributed to expanded service, faster train speed, better schedule reliability, enhanced safety and security, lower cost, and increased access to real-time service and other important customer information.

We have the experience to continue effective management of Commuter Rail assets in all New England conditions. Our Engineering Managers have cultivated networks of local relationships, system knowledge, and customer insight that are vital to maintaining an effective partnership with the MBTA and meeting the objectives set by the agency. Our annual Engineering Services Plan (ESP) will articulate our approach to providing the reliable and resilient railway infrastructure necessary to support superior operational performance and, by extension, exceptional customer experience.

2. MBCR Key Achievements

Safety is our Paramount Concern

The MBTA operates one of the safest commuter railroads in the nation. Our 2013 January-March Accident Frequency Ratio (AFR) of 1.5 reportable injuries per 200,000 work hours is the best AFR among comparable US commuter railroad agencies (please see Safety Section 2 for more detailed information). With years of experience in safety management and hazard reduction, MBCR understands the importance of maintaining the highest standards of safety for our passengers, employees and the general public. For example, the use of fall prevention and netting systems during Merrimack River Bridge work resulted in zero safety issues or injuries. Our Engineering inspection standards include stringent safety criteria to ensure that our infrastructure consistently supports the safest possible passenger experience, both on and off the train. These standards, combined with quality infrastructure maintenance, are part of the reason MBCR has never experienced a track-related derailment. Our partner Veolia Transportation's worldwide transit and rail presence enables identification and sharing of best safety practices to protect passengers, employees and surrounding communities.

Infrastructure Upgrades Have Boosted Performance

MBCR Engineering has a strong history of partnering with the MBTA to maintain and improve the Commuter Rail network. Through a rigorous inspection, preventative maintenance and repair program, MBCR has experienced a 63% decrease in Engineering-related train delay minutes since 2007.

Track

MBCR has completed extensive track projects that have improved asset condition, increased safety, raised track speeds, and expanded service options throughout the system. For example:

- Completion of the Worcester Line Infrastructure Condition Assessment enabled launch of express train service in April 2013, and a plan to increase service frequency to 40 daily round trips between Worcester and Boston in Fall 2013.
- Installation of 20,000 new cross ties on the Cape Main from Middleboro Station south to the Cape Cod Bridge (18.65 miles) allowed track speed to be increased from 10 MPH to 59 MPH, which was necessary to launch CapeFLYER service in May 2013.
- Rapid response reassignment of MBCR crews enabled us to repair and maintain areas with defective concrete ties on the Old Colony Lines from 2008-2010. We maintained service even as ties were failing unpredictably.
- In 2007, MBCR installed approximately 14,000 ties on the MBTA's Green Line "D" Branch. Recognizing the quality of MBCR's work, the MBTA Subway Department reached out to MBCR to perform this work. MBCR's tie crew worked in conjunction with MBTA field personnel to complete MBCR's tie work and a number of other projects on the same line during one service disruption.
- Increased speed at several locations through targeted track improvements (from 10 MPH to 15 MPH at Tower A; from 60 MPH to 70 MPH on segments of the Lowell line; and from 70 MPH to 79 MPH on segments of the Newburyport and Franklin lines). In aggregate, these improvements save commuters approximately 400 hours per year in transit time.

MBCR built slippery rail trains to combat crushed leaf buildup on track

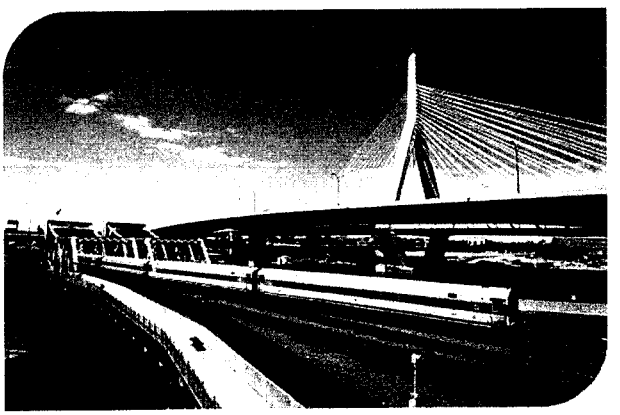
MBCR introduced solutions to common track-related challenges. To combat crushed leaf buildup on tracks in the autumn months, MBCR built Rail Sprayer trains to reduce

wheel slippage. Together with a comprehensive vegetation management program, this initiative reduced delay minutes by 30% from 2005 to 2006. Introduction of a second Rail Sprayer for additional network coverage in 2009 resulted in an additional 27% improvement from 2009 to 2012.

Bridges

MBCR has carried out key improvements to various aspects of system bridges, resulting in safer structures, higher speeds and fewer bridge-related service delays. These improvements involve bridge timber replacement, signal systems, drawbridge operation, and installation of Ridex rail, among other structural enhancements:

- Replacement of approximately 1,600 bridge timbers on the Merrimack River Bridge in Haverhill in 2009, as well as 12 other bridges.
- Installation of a new Beverly drawbridge signal system using Spread Spectrum Vital Signal Control. This project provides more reliable service, while reducing the need for costly submarine cables and associated maintenance and testing (2008).
- Installation of Ridex rail (detailed in Section 5.A.2) to improve the speed and ride on movable bridges: Draw 1 over Charles River (2008), Manchester Drawbridge (2012), Saugus Drawbridge (2013-2014).



One of the hundreds of trains that crosses the Charles River on Draw 1 each day

Signal Systems

MBCR's Signal Department has proved instrumental in designing, developing and improving signal systems for the MBTA, with a goal to consistently improve the safety and performance of the railroad. For example:

- Upgrade of the signal system from Beverly Junction to Chesley Interlocking to allow trains to run in both directions on both tracks, dramatically enhancing operational flexibility and reducing delays. (2009)
- Assist in the design and installation of signal infrastructure to enable the Greenbush Extension between Scituate and Braintree, which included 27 grade crossings (five of which are four-quandrant gates), nine interlockings, and cab signal systems. Our team also performed the final cutover and inspection of the entire line.
- Revised signal testing procedures and instructions ("C&S 1" - Instructions for Testing Signal Apparatus and Signal Systems and "C&S 2" - Special Instructions Governing Construction and Maintenance of Signals and Interlockings), as well as Signal Design Review procedures and an FRA-required Software Management Control Plan (SMCP). These process improvements have enabled MBCR to keep pace with regulations and technology, while ensuring a consistent approach to signal designs.
- Developed Train Braking Charts and worked with the MBTA's mechanical team to establish the MBTA's first braking curve calculations that assist Locomotive Engineers in proper braking and deceleration techniques.

Network Improvements Have Increased Speed and Reliability

MBCR has made it a priority to eliminate outdated technologies and replace them with more sophisticated, resilient ones. Steady upgrades to electronic track circuitry, aerial cable and grade crossing control systems make the railroad safer and less vulnerable to failure. In addition to our Haverhill and Fitchburg Double Track efforts, following are examples of line-specific improvements:

Worcester Line

- Seamless transition of the Worcester Line from CSX to MBCR maintenance working

with the Brotherhood of Railroad Signal, CSX and the MBTA.

Fairmount Line

- Installation, testing and cut-over of solid state interlocking, track circuits and grade crossing warning devices on the Fairmount Line, eliminating eight miles of open pole line and cable.

Haverhill Line

- Installation of electronic track circuitry, two interlockings, eight wayside signals, and four grade crossings between Lawrence Station and Plaistow, NH, eliminating seven miles of open pole line and cable.
- Conversion of open pole line to aerial cable from Fells Interlocking to Broadway Crossing in Wakefield, and between Wilmington and Lowell Junctions.
- Installation of grade crossing predictor control systems at Salem and Willow Streets, eliminating mechanically interlocked relays.
- Replacement of entire warning devices and controls at Concord Street, eliminating mechanically interlocked relays.
- Signal upgrade with Light Emitting Diode (LED) technology at D9.3, D9.4 and D16.0.

Lowell Line

- Installation of electronic track circuitry and upgrade of two grade crossings between Somerville Junction and Winchester Interlocking eliminating eight miles of open pole line and cable.

Rockport Line

- Conversion of open pole line to aerial cable from Boyles to West Thissel Streets, and between Stanwood Avenue and Gloucester Drawbridge.
- Renewal of signals at G26.6, G26.9, G28.1 and G28.2.

Newburyport Line

- Removal of six miles of open pole line and installation of electronic track circuitry, four LED signal locations and a new crossing at Asbury St. between Chesley and Ipswich West Interlockings.

Fitchburg Line

- Development of software to bring Waltham Tower control into CROCC.
- Installation of electronic track circuitry, an interlocking, and six wayside signals between Shirley and Fitchburg Stations eliminating seven miles of open pole line and cable.

Systemwide

- Replacement of over 50 gate crossing mechanisms.

Track and signal initiatives have increased speeds on multiple lines to support faster commute times, higher utilization of train sets, and operational flexibility.

Customers are Connected and Secure

MBCR understands that the customer experience extends beyond the core needs of safety and punctuality of trains. Since 2003, MBCR Engineering has facilitated numerous improvements in communication, information availability and system security.

- MBCR worked closely with the MBTA to establish the first Wi-Fi-enabled Commuter Rail system in the nation.

MBCR worked closely with the MBTA to establish the first Wi-Fi enabled Commuter Rail system in the nation.

- Improved Wi-Fi availability from 94% to close to 99% after taking over maintenance in 2012. This was achieved through a system our team designed and developed that monitors the status of all Wi-Fi coaches and generates a daily report of unusual occurrences.
- Upgraded the Customer Information and Announcement System (CIAS) boards at North and South Stations from mechanical to electronic signs. We also installed new electronic signs at the end of each platform to increase information access for customers at stations.

- Installed AM radio links at 89 major stations to provide customers with real time train information in their automobiles, including the development of text to speech software and hardware. This enables passengers parked at outlying stations to track their train's progress from the comfort of their cars. We are committed to working with the MBTA to complete this initiative at remaining stations throughout the next contract term.
- Installed over 100 security cameras along the ROW. Not only does this deter suspicious activity at stations and on platforms, but cameras assist MBCR and the MBTA in reducing theft and vandalism at layovers and maintenance facilities.

Quality Training and Management

Our Engineering forces receive thorough and frequent training in a number of areas to ensure safe, quality work practices while maintaining professional certification and competency in the operation of work vehicles, specialized equipment and tools. MBCR has trained employees to perform work in a manner that follows operating guidelines, protects the lifespan of the equipment (such as tampers, tie handlers, hi-rail vehicles, etc.) and carries out work activities as efficiently as possible to protect train service. In addition, our Zone Plan (please see Supplemental Appendix 4 for description) organizes the railroad into eight geographical territories, with dedicated Engineering managers and personnel responsible for the infrastructure located in each Zone. This Plan capitalizes on forces' greater familiarity with the particular assets in their Zones and increases managers' accountability for the Zone's improved performance and safety.

Environmental Compliance

MBCR brings a track record of complete environmental compliance and increasing sustainable practices in our operation. Through our team's comprehensive approach to inspections, permitting and monitoring at all MBTA facilities and along the ROW, we have achieved 100% Environmental compliance (zero violations at facilities), since 2003.

3. MBCR Key Future Commitments

MBCR will enter into the next contract with an Engineering Services Plan (ESP) that builds on our considerable experience and understanding of the MBTA's Commuter Rail infrastructure needs. The future commitments included in this section are in response to the MBTA's RFP requirements, including those specified in ODRL 3.2-001 through 3.2-111. In order to meet and exceed these requirements, we will implement new technologies, work processes, quality management training and continuous improvement techniques to achieve a data-supported decision making environment. This approach will focus Engineering resources on projects that are cost effective and have the most impact on OTP. The following high level categories provide an overarching vision for all of the Engineering activities that take place each day: to provide safe and resilient operating infrastructure, and to support ongoing improvements in safety, train performance, customer experience and sustainable practices.

Please Note: *This "T light bulb" icon will be used throughout this section, and the proposal, to identify our proposed innovations for the next contract period.*

Safety

MBCR's Engineering Department enforces safety as its top priority. Our Safety Department will continue to provide guidance and awareness programs to achieve full compliance with all workplace safety rules. MBCR is initiating a program in which Department managers audit the safety practices of each other's work crews. This type of cross audit takes advantage of skill sets and results in greater consistency and compliance with safety rules and practices across all Engineering divisions. Training, awareness and enforcement, as well as the use of a Learning Management System (LMS) to automate tracking of all employee certifications and safety credentials, will support continued reduction of our AFR statistics from 3.91 in 2012 to 2.5 target by 2016.

MBCR is also committed to ongoing infrastructure upgrades that will increase passenger safety. For example, the installation of "gate keeper" technology at grade crossings will allow for gates struck by vehicles to automatically return to proper alignment. This protects pedestrian and automobile traffic in the vicinity of crossings, while reducing the time to return the crossing to normal service.

Quality Performance

Preserving and maximizing each asset's lifespan is a key goal of the Engineering Department. It impacts both the efficiency of the service (with a direct link to on-time performance) and the cost of maintenance, especially as equipment and materials age.

Implementation of our Quality Plan and full utilization of the upgraded Trapeze Enterprise Asset Management (EAM) system will enhance MBCR's current performance and state of good repair of all Commuter Rail assets. Continued enhancement of training programs and focused technology usage will be a significant part of our quality approach:

- MBCR managers are undergoing ASQ certification in "Manager of Quality/ Organizational Excellence" concepts and will bring a more data-driven mindset to overall system management. Augmented by the asset tracking capabilities of Trapeze, we will improve efficiency and decision-making related to asset performance and condition, as well as work scheduling and inventory management.
- MBCR has launched an Advanced Signal Training Test Workshop at Cobble Hill to consistently enhance Signal personnel skill sets and provide training on new technologies.
- MBCR has developed a Rail Traffic Controller (RTC) model for the entire MBTA Commuter Rail network. RTC will be used by Engineering (and other) managers to analyze "what if" scenarios for designing infrastructure upgrades, scheduling large-scale MBTA construction projects and reducing train-delay minutes/congestion.
- Engineering forces' use of handheld devices for real-time field reporting and inspections will provide faster and more transparent inspection reporting, as well as a snapshot of asset conditions and planned maintenance.
- An inventory bar coding system will link with Trapeze EAM to provide efficiencies for stores and Engineering staff. Bar coding will ensure accurate, real-time inventory reporting that saves time and prevents waste.

MBCR's Quality Manager will oversee implementation of our Quality Program and will work with Engineering managers to advance quality initiatives, documentation and training throughout the organization.

Customer Experience

MBCR Engineering is responsible for key aspects of the customer experience and for contributing to a positive perception of the MBTA and MBCR. This includes:

- A safe, smooth ride supported by well-maintained track infrastructure.
- On-time arrival, supported by fully operational signal, track and bridge infrastructure.
- Clean, attractive surroundings at stations and along the ROW.
- Reliable Wi-Fi service, electronic information signs, and camera systems that support communications, passenger information availability and security.
- Socially and environmentally responsible practices.

Maintaining and improving each of these features is MBCR Engineering's core commitment to customers. Through our Zone organization, our experienced personnel will have enhanced familiarity with infrastructure, systems and facilities. This approach will result in faster remediation of issues and a better overall experience for customers.

Customers rely on well-maintained electronic information signs

MBCR's new Engineering Planning Team will centralize work scheduling and resource allocation to coordinate track outages for MBCR, MBTA and third party projects. This will streamline requests to dispatchers and maximize the amount of work completed in a single scheduled work block. As a result, customers will experience less disruption to trains and schedules.

Sustainability Plan

MBCR is formalizing a comprehensive Sustainability Plan to identify and drive future sustainability improvements within the daily operation of the MBTA's Commuter Rail system. The Sustainability Plan will align with the sustainability goals of the MBTA and the Massachusetts Department of Transportation (MassDOT).

Strategic Partnerships

In addition to existing strategic relationships that support delivery of engineering and environmental services, MBCR has established new partnerships to deliver additional specialized resources, equipment and expertise as needed to support our core capabilities. These partnerships, engaged as needed, will enable MBCR to streamline workforce utilization on primary engineering activities, while relying on outsourcing for irregular or specialized work.

- AECOM, a global provider of technical and management support services, will provide engineering services to support maintenance and future upgrade projects as needed. AECOM has extensive experience with the MBTA and commuter rail, having provided design services for numerous stations, track systems, yards and facilities for nearly 30 years, most recently leading the design of the passenger rail platform extension at the Hyannis Transportation Center to support CapeFLYER train service.
- ARCADIS will continue to serve as MBCR's Environmental Services subcontractor, providing operation and maintenance of major environmental systems, reporting and consultancy services.
- HDR Engineering Inc. will continue to partner with MBCR and the MBTA to provide surveys, plans, feasibility studies and additional technical support as needed.
- LM Heavy Civil, LLC (LMH) and its parent company Cooperativa Muratori & Cementisti (CMC) di Ravenna" will provide resources and support as needed for emergencies and Supplemental Work.
- RailWorks, a world class provider of Railroad resources and equipment, will provide additional labor resources for supplemental work and increasingly for non-standard maintenance and repair activities.
- Trapeze will provide resources to work directly with MBCR to implement the EAM system, commencing prior to Mobilization.

Improvement Proposal

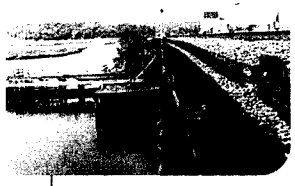
In addition to the future commitments outlined above, MBCR proposes improvements through investments that will improve efficiency, performance and overall condition of MBTA Commuter Rail infrastructure, including.

- Installation of a solar array on the seven-acre rooftop of the Commuter Rail Maintenance Facility (CRMF). This installation will establish a renewable energy source and is projected to generate more than 1,000,000 kWh per year. In addition to providing over 1,000 tons of CO_2 offset per year, a rooftop solar array on the highly visible CRMF building will be a visible symbol of MBTA and MBCR's commitment to responsible environmental stewardship. MBCR looks forward to discussing this Improvement Proposal and reviewing the benefits from the investment. Please see Supplemental Appendix 3 for more detailed information.

Day-In-The-Life *of* MBCR Engineering

5:00 am
Drawtender reports to Gloucester Drawbridge.

Machinists responsible for drawbridges report to Salem and Mystic Headquarters.



9:00 am
Engineering managers attend Daily Operations call with multiple departments to review morning peak.

10:00 am
Signal Maintainer responds to report of a broken gate at High Street, West Medford.

10:30 am
Track managers review data during track geometry testing on the Worcester Line.

12:00 pm
B&B Crew receives notification throughTrapeze to report to Brockton Station to repair a defect in the platform.

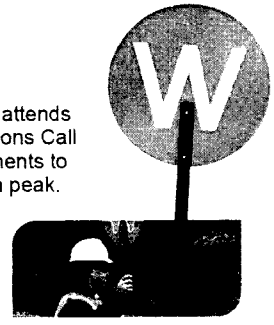
1 pm
Signal Maintainer, Track Foreman and Bridge Inspector report to Gloucester Draw to perform quarterly joint drawbridge inspection.

2:00 pm
Flagger removes track from service for MassDOT to perform overhead bridge repairs.

2:30 pm
B&B Crew reports repairs completed at Brockton Station.

3:00 pm
Chief of Engineering attends second Daily Operations Call with multiple departments to prepare for afternoon peak.

Flagger returns track to service after completion of MassDOT repairs.



3:30 pm
Station Cleaners complete cleaning at Anderson Station.

4:00 pm
Signal crews install a new signal system in Salem.

6:00 pm
Bridge Inspector clears East St. bridge for normal service.

5:00 AM | **NOON** | **6:00 PM**

7:00 am
Chief of Engineering meets with Assistant Chiefs to review the day's activities.

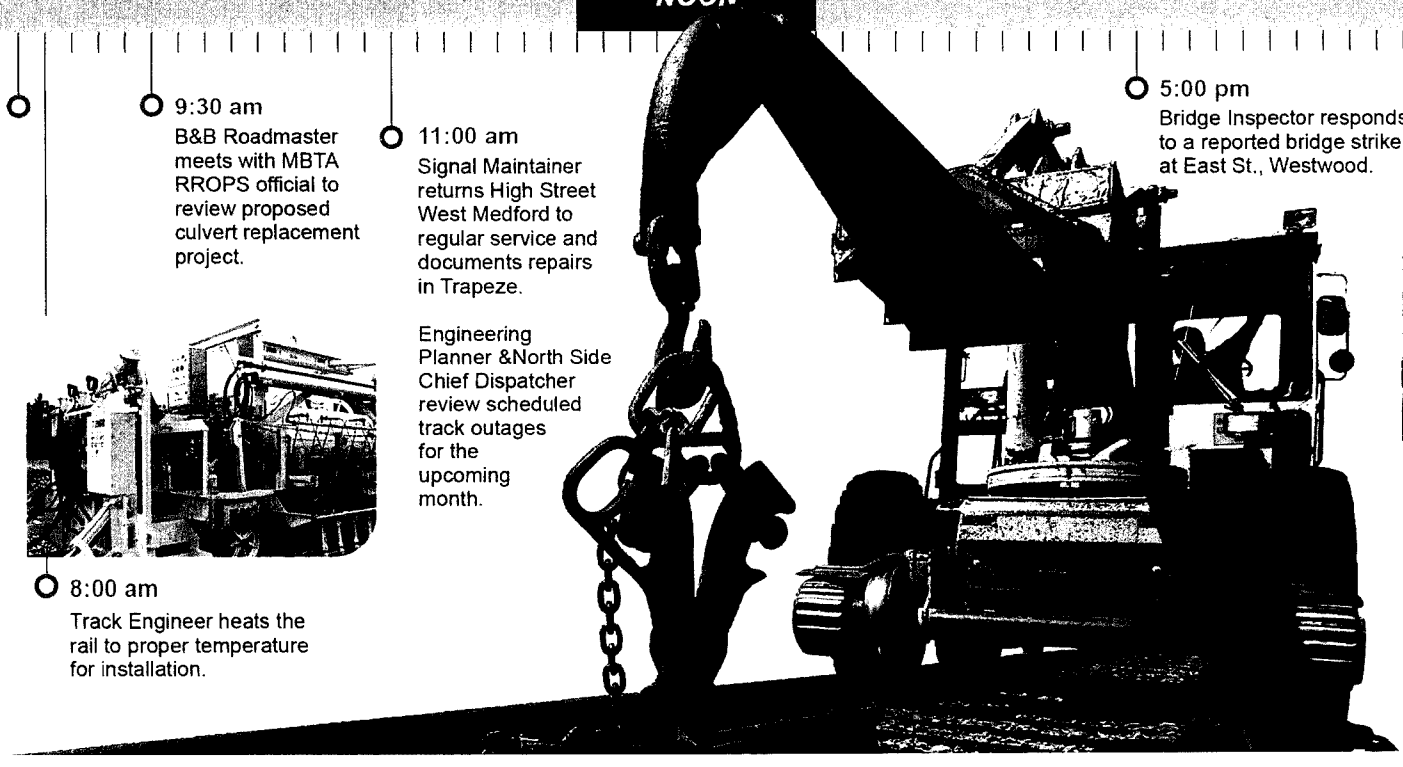
Track and Signal crews arrive at construction site to support Fitchburg Line Improvements.

8:00 am
Track Engineer heats the rail to proper temperature for installation.

9:30 am
B&B Roadmaster meets with MBTA RROPS official to review proposed culvert replacement project.

11:00 am
Signal Maintainer returns High Street West Medford to regular service and documents repairs in Trapeze.

Engineering Planner &North Side Chief Dispatcher review scheduled track outages for the upcoming month.



5:00 pm
Bridge Inspector responds to a reported bridge strike at East St., Westwood.

5:30 pm
Signal Maintainer adjusts a switch in Tower A.

MBCR

Elements of the Engineering Services Plan

5.A Engineering Services Plan

5.A.1 Managing, Inspecting, Replacing, Repairing, Maintaining and Reporting on the MBTA's Commuter Rail Infrastructure

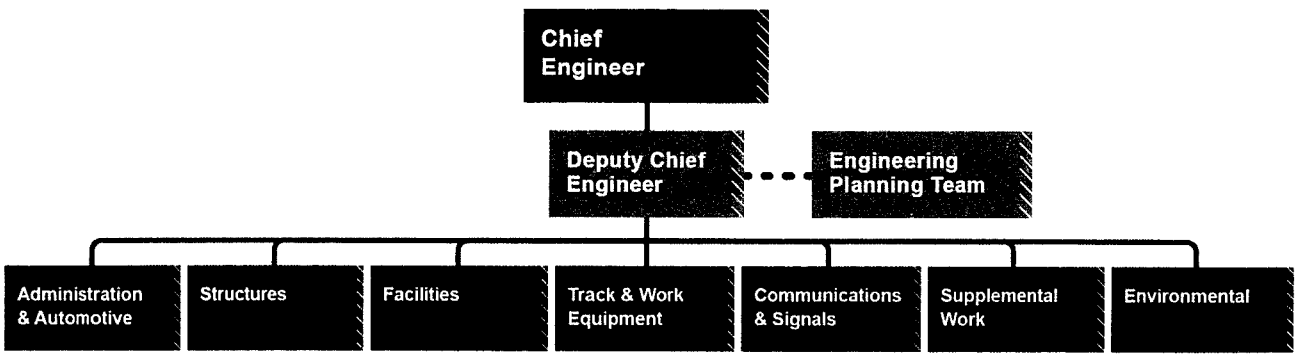
MBCR Engineering will continue to deliver superior performance with the objective of maintaining all Commuter Rail infrastructure assets in a Good Working Condition. In meeting MBTA requirements, MBCR will leverage its extensive knowledge of the system; its portfolio of asset management tools and maintenance plans; stringent inspection standards; focus on quality, and emphasis on effective preventative maintenance to prolong the life of assets at the lowest cost. In addition to complying with all safety and environmental requirements, Engineering forces will perform all maintenance in accordance with MBTA, regulatory and industry standards. With older systems, especially on the North Side, it is important for the MBTA to be able to rely on Engineering managers that know these systems' idiosyncrasies inside and out. This is essential to day-to-day operation and realistic implementation of technologies and work practices that enhance and improve the system.

MBCR will leverage its extensive knowledge of the system; its portfolio of asset management tools and maintenance plans; stringent inspection standards; focus on quality, and emphasis on effective preventative maintenance to prolong the life of assets at the lowest cost.

Our Management: Professionalism is Key to our Success

On an annual basis, MBCR will submit an ESP to the MBTA, including all supporting plans and deliverables listed in the ODRLs. The ESP will outline inspection and maintenance activities to be undertaken by MBCR in accordance with the Operating Agreement, including major maintenance operations; maintenance performance standards; frequencies of tasks; a staffing plan; specific work schedules; proposed work windows, track outages or service diversions; and flagging requirements. MBCR's ESP will be administered by a team of highly skilled and experienced Engineering Department leaders who are supported by Senior Engineers, Roadmasters and Work Crews with defined roles and reporting procedures. The Department is divided into divisions that work collaboratively to perform asset inspection, maintenance and supplemental work activities: Administrative & Automotive; Structures (Bridge & Building); Facilities; Track & Work Equipment; Communications & Signals (C&S); Supplemental Work and Environmental.

Engineering Organizational Chart



difference between the North Side and South Side. Engineering Plans and performance goals are tailored accordingly. MBCR also assigns Track, Signal, B&B and Facilities managers who are familiar with the older assets and have the ability to troubleshoot and repair/upgrade them as necessary.

Our Management Tools: Trapeze Enterprise Asset Management (EAM)

MBCR Engineering is committed to a full expansion of the Trapeze EAM software to manage linear assets including inspections, defect recording and repair of track, signals, switches and fixed assets. The solution records critical data in a powerful database giving managers immediate access and enabling them to make key decisions about maintenance practices, capital improvement, train scheduling and rail operations throughout the entire system. Trapeze EAM will help deliver a clear picture of all Commuter Rail assets, backed by comprehensive and timely data collection and analysis. With the advent of additional features related to linear asset tracking and management, such as data tagging and handheld technology, GPS and wireless, Trapeze has become an essential tool for the Commuter Rail Engineering environment. Trapeze EAM will bring powerful real-time efficiencies to creating inspection reports, work orders and QA/QC, closeout and warranty documentation. Better access to quality information will help us make more informed decisions and establish work priorities. Successful implementation requires resources and data conversion to integrate the system and establish a basis for meaningful information management and reporting. MBCR will ensure the successful integration of this mission critical program through investment in the resources and processes needed to fast track the implementation, including training. We will adhere to industry standard Project Management practices as described by the Project Management Institute guidelines (PMBOK Fifth Edition or higher).

We are confident that our resources and firsthand experience gained through years of inspecting and maintaining the infrastructure will be a critical differentiator when it comes to successfully implementing Trapeze and quickly populating the underlying asset database. For more details on our Trapeze Implementation Plan, please see Supplemental Appendix 6.

Our resources and firsthand experience gained through years of inspecting and maintaining the infrastructure will be a critical differentiator when it comes to successfully implementing Trapeze and quickly populating the underlying asset database.

Trapeze EAM will also augment the Zone Plan, allowing for region-by-region or line-by-line reporting of asset condition and performance. It will generate inspection and maintenance reports analyzing the history of each line and the relative frequency and degree of problems with system assets. A snapshot report of each line's inspection and repair history will enable managers to pinpoint assets with higher than average failures and take appropriate action.

Our Management Tools: Rail Traffic Controller (RTC) Modeling

MBCR has developed a comprehensive Operations Planning and Modeling capability using the Rail Traffic Controller (RTC) Model from Berkley Simulation Software for the entire MBTA Commuter Rail System including the Amtrak North East Corridor. The RTC Model was applied to the Chicago CREATE Project and other places within North America for train schedule feasibility studies, new infrastructure cost benefits analysis, analysis of opportunities to increase train speeds, or for new train operations. Many recent Federal Funding projects have required the application of the RTC Model to establish baseline analysis and to benchmark project achievements.

The RTC model of the MBTA's Commuter Rail system includes all MBTA train schedules, train sets and daily assignments as well as a comprehensive infrastructure file with all track chart information including switches, signals, layover yards, North and South Stations, CRMF, Southampton S&I and Readville.

MBCR has demonstrated full user capability through the application of RTC in the Worcester Line assessment and infrastructure improvement planning in 2012. MBCR also used RTC to develop the 2013 April Express Trains and the "40 roundtrips from Worcester to Boston" schedules that will

involve completion of double track and increasing the line speed to 79 MPH. MBCR is currently using RTC to analyze the Fitchburg and Haverhill lines for the development of new schedules as well. Finally RTC will be applied to assessment of construction phasing and adjustment of MBTA schedules that will be necessary during North Station Drawbridge replacements and eventual expansions of both North and South Stations.

Our RTC real modeling capability is a significant advantage that MBCR brings to the MBTA to support the continuous process of network improvement.

Inspections Support Proactive Maintenance Planning

MBCR developed and manages a program to inspect Commuter Rail infrastructure assets as required. This includes continuous inspection of track, ROW, communications and signal equipment, buildings, stations, parking lots, lighting, fences, bridges, culverts, facilities, non-revenue rolling stock, vehicles and work equipment. Using stringent standards, MBCR inspectors report deficiencies at regular intervals. Safety patrols inspect the ROW as warranted, such as checking for damage after storms.

Inspectors are assigned to specific routes on designated MBCR network lines and report through Roadmasters (Managers) who assist in compiling weekly work plans. MBCR will continue these inspection activities, fully adhering to all FRA and MBTA requirements and AREMA best practices, while initiating new practices and training in the upcoming contract, such as:

- Updating all asset identification and condition assessment data and uploading it into Trapeze EAM
- Training inspectors on use of field technology to capture and transmit electronic inspection data

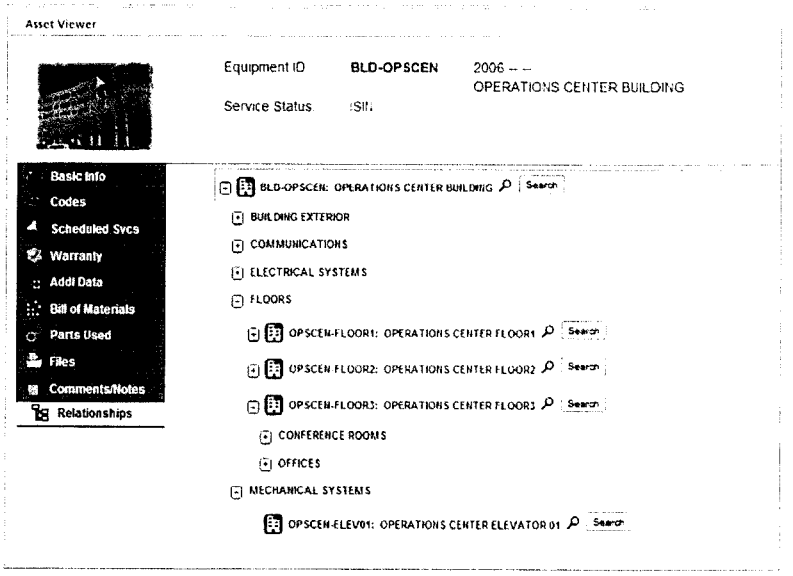
Trapeze EAM Functionality Captures Inspection Data and Updates Asset Status

Use of Trapeze EAM will streamline asset inspection through electronic collection of GPS time-stamped data into a central repository of inspection reports. This will benefit the MBTA by establishing a transparent record and history of each asset, along with all associated inspections and activities that MBTA officials can access in real time. The process will support more collective and informed decision-making about maintenance and repair priorities to expedite process improvement.

When Trapeze EAM is fully implemented, each piece of equipment will receive a unique identification number or asset tag that links it with a baseline condition assessment and related supplemental information. Examples include warranties, third party agreements, leases, and other corresponding information that can be collected and attached to the asset tag as appropriate. Much of this data has already been collected by MBCR through inspection activities.

Engineering managers will identify additional assets to be included in the Trapeze EAM database and will develop electronic inspection templates that can be viewed as pull down screens (see image).

Engineering inspectors in the field will use handheld devices with GPS to capture inspection data and submit it electronically to Trapeze EAM. This process has the following benefits:



Sample Trapeze EAM Asset Screen

- Ability to capture time-stamped pictures and visual documentation of an asset before and after repair
- Real-time evaluation and prioritization of repairs
- Real-time action in response to customer complaints about a station or platform
- Real-time upload of inspection data into the EAM database

Our Basic Duty: Maintain, Repair, and Replace the Infrastructure

In addition to institutional knowledge and local orientation, our continued investment and development of quality, safety, training, technology and key personnel all contribute to a program of proactive maintenance for rail network infrastructure and facilities.

Quality Asset Management

We will build upon the strict standards of MBCR's "MW-1" Engineering Inspection and Maintenance Standards and "C&S 1" and "C&S 2," all of which prescribe standards higher than mandated minimums. These heightened standards allow for steady improvement in the condition of the Commuter Rail system beyond Good Working Condition and increase the overall sustainability of the infrastructure. Implementation of our Quality Assurance Plan (please see Supplemental Appendix 8 for an overview) and Trapeze EAM will enhance MBCR's current performance of Service Property and Support Property maintenance, including attention to cleanliness, historical considerations and adherence to manufacturer's recommendations and instructions.

Comprehensive Training

Employee education is a core tenet of MBCR's quality commitment to safety and performance. MBCR will continue to strengthen existing training, mentoring and apprenticeship programs to ensure that quality work practices and safety are embedded in all areas of management and workmanship. Our training supports a progression in which new hires acquire experience and skills as veteran employees retire.

For example, MBCR's two year Signalman Apprentice Training Program includes a series of online modules that are followed by four weeks of off-site practical instruction at the Signal Training Solutions School in Grain Valley, Missouri. For continued signal personnel training, MBCR has recently launched an Advanced Signal Training Test Workshop at Cobble Hill. This facility is equipped with signal equipment and software for hands-on practice and simulation.

Other training includes instruction in Road Worker Protection (RWP), NORAC, Bridge Worker Safety, Confined Space Entry, Fall Protection, Hand and Power Tools, General Machine Operation, HAZCOM, MW-1, C&S 1 and 2, Crane Hoist Rigging, Fork Lift operation, computer skills, AED/CPR and additional skills pertinent to specific roles. Our comprehensive LMS will track all employees' completion of training and certification activities, as well as performance on tests to demonstrate mastery of concepts. The LMS will assist with required audits and provide assurance that every single Commuter Rail employee is up-to-date on the latest safety, technical and performance standards. Please see Supplemental Appendix 7 for MBCR's Training Plan.

Superior Customer Experience

MBCR will continue to deliver a secure, clean and comfortable rail environment to the MBTA's customers. This includes increasing the cleanliness and presentation of station facilities and ensuring a well-maintained track for a smooth ride. Rigorous maintenance standards, frequent inspections, cleaning, snow removal, painting and upgrades will continue to deliver customer satisfaction. Our new Service Improvement Leadership Team (SILT) will enable us to collobarate with all Departments to analyze customer feedback and service trends and develop strategies and plans to continuously improve the customer experience.

Management of Work Projects: MBCR has Organizational Skill and Relationships

MBCR Engineering managers have developed processes and relationships that are instrumental in efficient work project planning, including organization of work crews, third parties and all support services, to minimize track outages and restore track to service as quickly as possible. MBCR leverages past experience and knowledge of each location's unique characteristics to carefully plan for any particular limitations, community sensitivities or respect for historical structures and environmental concerns.

For example, the recently completed work on the Shawsheen River Bridges on the Haverhill Line required coordination between three railroads, MBCR, Amtrak and Pan Am, MBTA Railroad Operations, MBTA Construction, MBTA Construction's contractor JF White and MBCR Engineering forces. The project involved installing a new bridge over a historical bridge, relocating tracks and deactivating and reactivating the signal system over the course of a weekend. Commuter Rail trains and the Downeaster were replaced by bus service and Pan Am adjusted all freight service to avoid the area for the weekend. MBCR Engineering and third party contractor JF White coordinated the project step by step from the moment the track was removed from service to the moment it was returned to service. This allowed for work to progress expeditiously while minimizing the pieces of equipment at the work location, which had limited space for work vehicles. The work was completed on time and the track was returned to service in plenty of time for the Monday morning commute.

Engineering Planning Team: Efficiency and Cost Effectiveness

To build on our organizational capabilities, MBCR's new Engineering Planning Team will introduce a number of efficiencies, including utilization of MOW scheduling software to program and coordinate routine and time-sensitive maintenance needs. This team will centralize requests from engineering forces for work locations and required timeframes and submit them in advance to the dispatcher for approval. This preauthorization for track allocation will not replace the safety procedures outlined in the Train Operating Rules (NORAC or CSX Rules) or MBCR's Roadway Worker Protection.

Track outage information alerts will notify other Engineering divisions of opportunities to schedule parallel work activities as part of "track blitz programs." The Engineering Planning Team will track all work activities for adherence to schedule, working time, equipment utilization and materials installed. The software in Trapeze will also establish requirements for manpower (by craft), equipment (by model and type) and materials and to ensure availability. This initiative will result in increased efficiency of each track outage, while synchronized work activities will reduce the number of track outages needed so that customers experience less disruption to scheduled train service.

ENGINEERING PLANNING TEAM BENEFITS	
Manpower Productivity	More efficient utilization of MOW forces with preplanned work-blocks coordinated across multiple disciplines
Equipment Utilization	Greater active utilization of equipment involved in on-track engineering activities
Materials Supplies	Just-in-time delivery of materials to work activities with all materials on-hand "setting the table" for the day of production
Rapid Responders	Availability of specific Other Track Material (OTM) and tools on-board vehicles to respond to incidents and minimize duration of operational events and delays

ENGINEERING PLANNING TEAM BENEFITS

Pace of System Improvements	Greater annual productivity for MBTA programs to improve track conditions and support increased train speeds
Improved OTP	Consolidation of multiple demands for track time into a single coordinated work block means fewer delays and higher OTP
Sustainability	Ability to prioritize and complete more work needed to maximize asset performance and prolong asset life

MBCR Snow and Severe Weather Plan

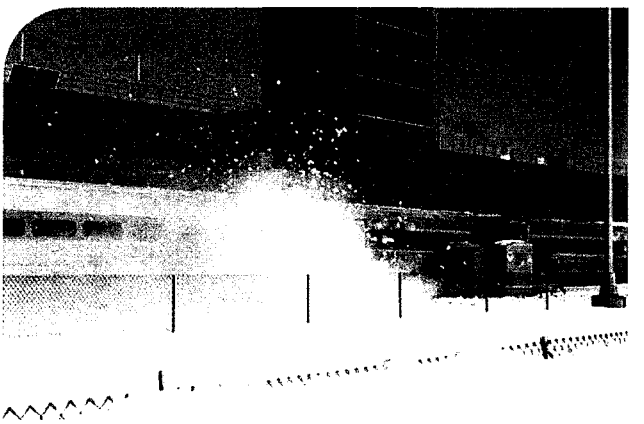
The integrated Snow Management Plan, updated and approved annually, is our blueprint for planning for, and recovering from, major snowstorms and other weather related events such as hurricanes, flooding and power disruptions. It utilizes all of MBCR's resources and provides detailed guidelines for MBCR personnel to work in conjunction with MBTA Railroad Operations personnel. In accordance with the plan, MBCR Engineering is responsible for snow removal, sanding and salting operations at station platforms, parking lots, walkways and tracks on the MBTA Commuter Rail system. The key to MBCR's success is planning, communication and responsiveness.

With the Engineering Trouble Desk as the central point of contact, crews receive instructions and update their progress on snow removal to protect operation of trains and keep station platforms, parking lots and overhead walkways clear. Crews work around the clock to improve travel conditions for Commuter Rail customers, and they are required to update the Engineering Trouble Desk every two hours until the completion of snow removal at each station. Engineering Managers inspect each location to ensure all areas have been cleared and to specify areas that require additional attention.

A pre-season checklist ensures that items such as snow equipment, dual purpose machinery, electrical and gas switch heaters and drainage systems have been cleaned, serviced, tested and strategically positioned in preparation for the season.

MBCR Storm Preparation and Recent Results

MBCR Engineering monitors storms through a variety of resources and develops a plan up to 24 hours prior to the storm's anticipated arrival. Crews are positioned throughout the system with additional resources shifted to those areas that anticipate most damage. Signal employees, who are restricted by hours of service regulations, are rotated to establish shifts for the expected duration of the storm. As the storm approaches, the plan is adjusted according to the latest forecasts. Senior managers at Cobble Hill monitor the forecast and receive reports from field managers throughout the storm and shift crews to the areas that are most impacted by the storm. As the storm ends and conditions are reported, crews and materials are shifted once again based on the damage caused by the storm.



Engineering crews clean up after February 2013 Blizzard Nemo

MBCR has experienced a number of destructive storms including two of the ten highest snow totals on record. Super Storm Sandy (October 2012), and record setting rain totals in March 2010 are examples of the severe weather that impacts the New England area. The Blizzard of 2013 in February dumped 15-30 inches of snow throughout Eastern Massachusetts, and the Governor enforced a travel restriction during the storm. Snow removal crews worked over 17,000 hours in days to ensure train operation and customer access would be available when service was resumed. As a result of these efforts, trains operated at a 90% OTP the following day. Passengers were enthusiastic about the service provided as some roads were still impassable at that point.

February 2013 Blizzard Customer Tweet: "#mbta commuter rail from the north shore is running like a charm!"

Successful execution of the Snow Management Plan, including partnership with the MBTA to procure essential snow removal equipment, has paid measurable service dividends, namely a 16% improvement in unadjusted OTP comparing the winter months of 2011 and 2013, two seasons with equally significant snowfall. Customers have noticed the improvements and shared their positive experiences through tweets and other feedback.

"Thank you @MBCR_info smooth ride coming up from the South this morning on the Middleboro-Lakeville line"

MBCR Integrated Response to Slippery Rail Season

Throughout the current contract term, MBCR has established a program to alleviate the "slippery rail" delays associated with fall foliage. Our comprehensive program includes pre-season inspections, summer brush cutting, adverse condition refresher instruction for Locomotive Engineers and development of Rail Sprayers to clear the accumulation of crushed leaves on tracks. While slippery rail routinely causes a 5% to 12% drop in OTP during the autumn months, this program has had a palpable impact on reducing delays: from 2007 to 2012, train delay minutes due to slippery rail have decreased by 48%.

We anticipate additional reductions in Slippery Rail delays as a result of a revised "Vegetation Management Plan" that MBCR will implement for the 2013 season. This program will incorporate proven tactics and technologies, including the potential application of "Traction Gel" applied by wayside devices that have been successfully utilized on other transit systems. In addition, MBCR is piloting a System Dynamics model (please see description in Transportation Section 6.A.6) that analyzes the dynamic relationships impacting slippery rail (weather, equipment, sanding supply and techniques, availability of Rail Sprayers, etc.) and simulates the effectiveness of new approaches and investments on combating the problem. This model, and our continued research on new technologies and materials to alleviate wheel slippage, will be the basis for our program.

Reporting on the Infrastructure

Day-to-day support of Commuter Rail operations, inspection and maintenance requires experience, flexibility and information sharing within the Engineering team, other MBCR departments, and the MBTA. On a daily basis, MBCR communicates directly with MBTA Railroad Operations and Engineering Staff through reporting and meetings to solve problems and plan ways to make system improvements.

MBCR complies with all reporting and documentation requirements mandated by the FRA and the MBTA. We are also committed to meeting all MBTA requirements specified in ODRLs 3.2-001 through 3.2-111. This includes, but is not limited to, the following:

- Reports on temporary speed restrictions, including plans and milestones for work necessary to remedy them
- Reports after every FRA signal and train control test or track inspection

- Reports notifying the MBTA of planned outages that affect the operation of trains or stations
- Comprehensive summary of all electrical maintenance and testing activities and results for the previous month, as well as anticipated activities for the coming month
- Annual reports identifying testing and maintenance measures with the potential to reduce cost, save time or simplify procedures
- Weekly maintenance production reports detailing dates/times/shifts/locations of work performed, material consumed and out of service time

Recognizing that these reporting requirements will expand as the need for information increases, MBCR will leverage the scalability of Trapeze EAM to fulfill these reporting requirements as they evolve.

5.A.2 Inspecting, Repairing and Maintaining Track, Signals, Communications Equipment, Train Control Equipment and Railroad Bridges

MBCR uses strict standards, developed in conjunction with the MBTA, for everyday inspection and system maintenance. This approach identifies potential trouble spots before more extensive remedial action has to be initiated. MBCR will build upon this approach to continually support operations and Key Performance Indicators (please see Management Section 8 for more detail on MBCR's KPIs).

MBCR forces perform quality control of tie replacements prior to launch of CapeFLYER service

Track: The Basis for Safe, Smooth Train Service

Throughout the current contract term, MBCR has demonstrated innovative approaches to solving track-related problems and spearheading improvements to increase speed (see Key Achievements in Section Overview) and OTP, without compromising safety for the riding public.

Inspection Data Drives Engineering Programs

In addition to track geometry car visits and ultrasonic testing with Sperry Cars, MBCR's Track Inspection forces carry out required visual inspections according to the MW-1. Our forces inspect 575 miles of track up to twice a week with careful attention to all aspects of safety, condition, warp, gage, fatigue, rate of degradation, and timing for renewal or replacement. MBCR will continue to meet or exceed all obligations pertaining to quarterly track geometry car inspections, grade crossing inspections, walking turnout inspections, switch inspections, ultrasonic testing, inspection of ties and timbers and special inspection of track and ROW, on a regular basis as well as during and after weather events.

Connecting Data From The Field With The Trapeze EAM Hub

MBCR Engineering inspectors will continue to provide front line presence for accurate and complete electronic data collection. They will use Trapeze handheld and tablet field reporting devices to collect inspection data and upload it electronically to Trapeze EAM. This will update the asset condition immediately and, when deficiencies and necessary work requirements are identified, inspectors will enter work orders directly into the system for the Engineering Planning Team to schedule and coordinate. Defects will be automatically posted on "linear asset valuation" screens for specific lines utilizing the Trapeze EAM ActionMap Module. This maintenance-focused Geographic Information System (GIS)/Map layer contains the various assets of a line such as mile post, rail type, turnout location and signal and bungalow location, which helps Engineering managers assess urgency of issues according to their impact on performance.

This process will help MBCR compare baseline track condition to current status and map the rate of track degradation on all line segments. By predicting deterioration rates, we can anticipate maintenance needs before the asset reaches its performance limits and quality standards identified in the MW-1. This continuous improvement cycle will extend the useful life of the infrastructure and maintain a safe and comfortable passenger experience at all times.

Maintenance and Repair of Track Avoids Deferral of Maintenance

MBCR's track maintenance and repair encompasses rail, ties and timbers, track structure, and ROW. The following table specifies our minimum commitment levels and approaches for MBTA-required plans to maintain Good Working Condition.

PLAN	COMMITMENT	BENEFIT
Rail Grinding Program	$500,000 each year	Restore profile and remove irregularities from worn rail track which prevents premature replacement and mitigates hazardous conditions.
Rail Replacement Plan	5 track miles of Continuous Welded Rail (CWR), including OTM each year	Replace worn rail to ensure safe and reliable performance. MBCR has concentrated on replacing jointed rail to mitigate noise and reduce signal bond failures.
Tie Replacement Plan	Minimum of 50,000 ties installed each year	Replace worn ties to ensure safe and reliable service. Replace ties prior to violation of MW-1 requirements for speed to ensure trains operate at the highest speed possible.
Grade Crossing Improvement Plan	Replacement and/or upgrade of at least 15 grade crossings per year	Ensure safe and reliable train operation and safety of motor vehicles operating over grade crossings.
Drainage Ditch Reshaping Plan	Reshape at least 2,500 linear feet of drainage ditches per line per year	Ensure drainage ditches are prepared to handle all storms throughout the year to alleviate flooding concerns. Drainage ditches are the first defense against track structure problems.

Additionally, MBCR will apply our local experience to go above and beyond these commitments to increase the safety and longevity of the system. Analysis of TRMS-II reporting of track-related delays (including locations and severity) will continue to serve as the basis for actions and strategies to improve punctuality of trains.

MBCR will direct the above improvement plans at the locations where they will have the most palpable impact on system safety and performance. For example, MBCR will focus the Rail Replacement Plan with installation of CWR and base Pandrol plates on the Worcester Line for the length of the contract. Similarly, we propose to prioritize tie replacement requirements as follows:

- Years 1 and 2: Worcester Line
- Year 3: Fairmount, Franklin, Rockport, and Newburyport Lines
- Year 4: Lowell and Fitchburg Lines
- Year 5: Haverhill Line
- Year 6: Fitchburg Line
- Year 7: Fitchburg Line
- Year 8: Rockport, Franklin and Stoughton Lines

The Key Achievements Overview at the beginning of this section includes a number of track improvement projects throughout the system that have been instrumental in upgrading and repairing track to support safer infrastructure, faster train speeds and system expansion to new destinations.

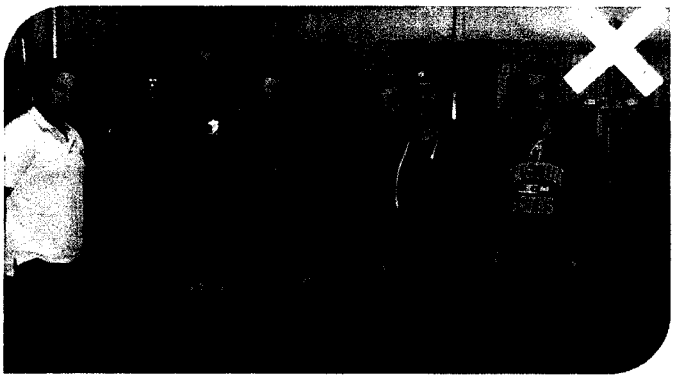
Signals and Communications Equipment

MBCR's Communications and Signal (C&S) group is responsible for inspecting, repairing and maintaining the Communication and Signal infrastructure that supports safe and efficient daily train operations. MBCR's Signal division is also at the forefront of many MBTA capital improvements, helping design and initiate signal systems.

As discussed in the Overview, MBCR developed the MBTA's passenger train braking curve calculations, to establish deceleration guidelines for Locomotive Engineers. MBCR also developed a Software Management Control Plan (SMCP) consistent with FRA 236. In addition, we have created an electronic database to track all software and hardware in use on signal systems, including serial and part numbers.

Signal Apprentice Training Program

MBCR developed and implemented an Apprentice Training Program for newly hired signal employees. We worked with Signal Training Solutions (STS) to develop a program, tailored to the Commuter Rail's infrastructure, to train new hires. The result is a combination of on-line, classroom and field training over a two-year period.



MBCR group at Signal Training Solutions School in Grain Valley, MO, March 2013

Employees start with an online, interactive 16-module tutorial complete with tests for each module. Test results and progress are monitored by MBCR Managers who schedule classroom instruction to build on the lessons and provide assistance to the employees.

Once they complete the online program, employees attend a four-week program delivered by STS for practical hands-on training and instruction. This program uses simulators that are identical to equipment and systems in use on MBTA Commuter Rail lines. The training is then augmented by a mentoring program in which senior qualified signal maintainers reinforce the techniques learned at school.

MBCR has put 48 signal maintainers through this program and spent over $500,000 on tuition and travel costs, demonstrating our commitment to maintaining the system with a highly skilled workforce. Enhancements include construction of a Signal training workshop at Cobble Hill with advanced equipment simulators. This recently completed facility is ideal for instructing signal employees on new technology being introduced on Commuter Rail lines and for supporting continuous improvement in MBCR's inspection, maintenance and repair of signal assets. Overall, these training programs enable quicker development of employees and give them the confidence to troubleshoot problems and make repairs without relying on more senior employees. Furthermore, the ability to quickly qualify more employees as Signal maintainers has allowed MBCR to establish additional night and weekend coverage with a night test crew. This crew tests locations that normally cannot be tested during the day due to track time restrictions.

C&S Tests and Inspections

Tests and inspections of Communications & Signal assets lay the foundation for resilient and reliable operation of the MBTA's Commuter Rail system. MBCR will perform tests and inspections that exceed FRA minimum regulatory requirements (parts 234, 235 and 236) and comply with the MBTA Operating Agreement and authorities' test procedures (MBTA C&S 1 and C&S 2). MBCR will continue to provide all required employee training to ensure these requirements are met.

Grade Crossing Inspections

MBCR Engineering, in coordination with the Training Department, has developed a comprehensive visual inspection program of grade crossing devices and highway/railway crossing surfaces. Track Inspection forces examine each grade crossing twice a week and report any concerns. Further, many grade crossings are remotely monitored by MBCR Technicians trained to identify and respond to field conditions such as power outages, excessive gate down time and other system faults. This monitoring allows the Engineering Trouble Desk to dispatch a qualified employee to the failure before it impacts train operations, preventing delays. Transportation personnel also report any broken crossings or malfunctions that they observe during the course of their runs.

Signal Design: Indispensible Expertise with many Unique Systems

MBCR Signal Design personnel who possess sophisticated understanding of both legacy operating systems and new technology perform a critical role in the MBTA's capital improvement program, ensuring both safety and regulatory compliance. MBCR has developed Signal Design Review Procedures (SDRP) to aid new signal designers and contractors in the use of MBTA/MBCR standards for design development. Our SDRPs provide for a consistent approach to signal designs and knowledge transfer to new employees.

Many of the signal systems in place are unique to the Commuter Rail and require specialized expertise to maintain, troubleshoot and upgrade. For example, the traffic circuits between Reading and Wilmington Junction are specific to the system and not present in other Commuter Rail systems. Another example is the safety systems in place in most of our Grade Crossings. These systems are configured so that any Operating or Engineering personnel can restrict signal aspects when crossings are cut out or in an emergency situation.

MBCR Signal Programming and Testing Expertise

The MBTA supported MBCR's acquisition of a computer program that enables us to test solid state signal systems in the office and correct issues before they are installed in the field. This saves labor and track time, and minimizes the risk of failure when the system is implemented. Other signal and communications software and benchtesting innovations include:

- Solid state track circuits, interlockings, highway crossing predictors and various other racks for the purpose of testing failed modules and intermittent problems
- Test rack checked software we wrote to provide the MBTA's Train Approach Warning System
- Signals mounted in racks (both Color-Light and Search-Light) test bungalows for proper signal aspects at Cobble Hill prior to installation

This equipment will be located in the newly built Advanced Signal Training Test Workshop at Cobble Hill to augment training and development.

Signal equipment and test racks provide hands-on training in the Advanced Signal Training Test Workshop

In addition, MBCR's Signal team provided crucial programming and testing expertise needed to retire the antiquated Waltham Tower, a manually operated control system, and transition control of the interlocking to the CROCC. This conversion involved the following key Signal Design activities:

- Programming to convert antiquated GRS 1930 'F' Code to state of the art technology
- Code System Rack development to test software prior to field Installation. For example, MBCR tested software from the Train Dispatcher's Office at CROCC in the Technician Shop for software verification of control and indication commands, facilitating removal of Waltham Tower.

Conversion of New and Existing Plans to CADD Drawings

MBCR will continue to convert as many existing Mylar plans as possible to CADD focusing on plans requiring revisions or new plans. For example, MBCR filed over 3,000 plans for the recent work completed during the Worcester Line transfer from CSX to the MBTA. MBCR will scan and create an electronic index of at least 10,000 drawings annually to meet the MBTA's requirement.

Maintenance and Repair: Resilient Signal and Communication

Signals

The Commuter Rail's signal systems are an integral part of system safety, reliability and OTP. MBCR's Signal group has deep experience in effectively maintaining, repairing and replacing relays, switch machines, switch circuit controllers and other signal apparatus as well as building signal cases and bungalows. We will continue to provide comprehensive signal monitoring and oversight 24 hours a day.

One of the keys to maintaining a State of Good Working Condition is a well thought out replacement program for aging and historically problematic infrastructure. MBCR's Signal group has accumulated specialized knowledge that enables us to make informed decisions about the relative performance and reliability of assets in each category, and to prioritize the need for closer monitoring and/or replacement. Each agreement year, MBCR will deliver the following:

PLAN	COMMITMENT	BENEFIT
Signal Failure Reduction Program	Annual 5% reduction on all preventable signal failures over the prior year through replacement of aging and historically problematic system components	This program improves safety and OTP by ensuring signals are working properly.
Grade Crossing Event Recorder Program	Install and maintain a minimum of 10 new event recording devices per year at grade crossings	Grade crossing recorders monitor status such as power failures, excessive gate down time and other potential malfunctions. Recorders also provide important data when troubleshooting events and alleged failures of the system.
Interlocking Event Recorder Program	Install and maintain a minimum of 10 new event recorders at interlockings each year	Interlocking event recorders monitor status such as power failures, code failures, dark signals and other potential malfunctions. Recorders also provide important data when troubleshooting events and alleged failures of the system.
Switch Machine Replacement Program	Replace 10 switch machines per year	New switch machines replace older technology and equipment nearing the end of its life cycle. Replacement of the entire machine is more prudent than replacing motor and gear parts in the field during train traffic and poor weather.
Pole Replacement Program	Replace a minimum of 50 poles	Alleviates the need to continue sustaining old technologies. Eliminates a common culprit in weather-related damage that causes delays.

These plans are subject to the strict requirements of our Quality Assurance Plan and are essential to ensuring all signal systems are maintained in Good Working Condition. In addition to the required programs above, MBCR proposes the following initiatives to reduce failures that cause train delays:

- Install electronic track circuits and retire as much of the approximately 160 miles of remaining pole line as possible.
- Utilize L.E.D. Wayside Signal and grade crossing flasher lights for improved visibility for Train Engineers and motorists which will improve safety.

Install "gate keeper" technology at five grade crossings per year to reduce broken crossing gates. These devices cause struck gates to assume their proper position after being hit by vehicles to maintain the design integrity of the gates and minimize train delays. This initiative will have a positive impact on safety and OTP.

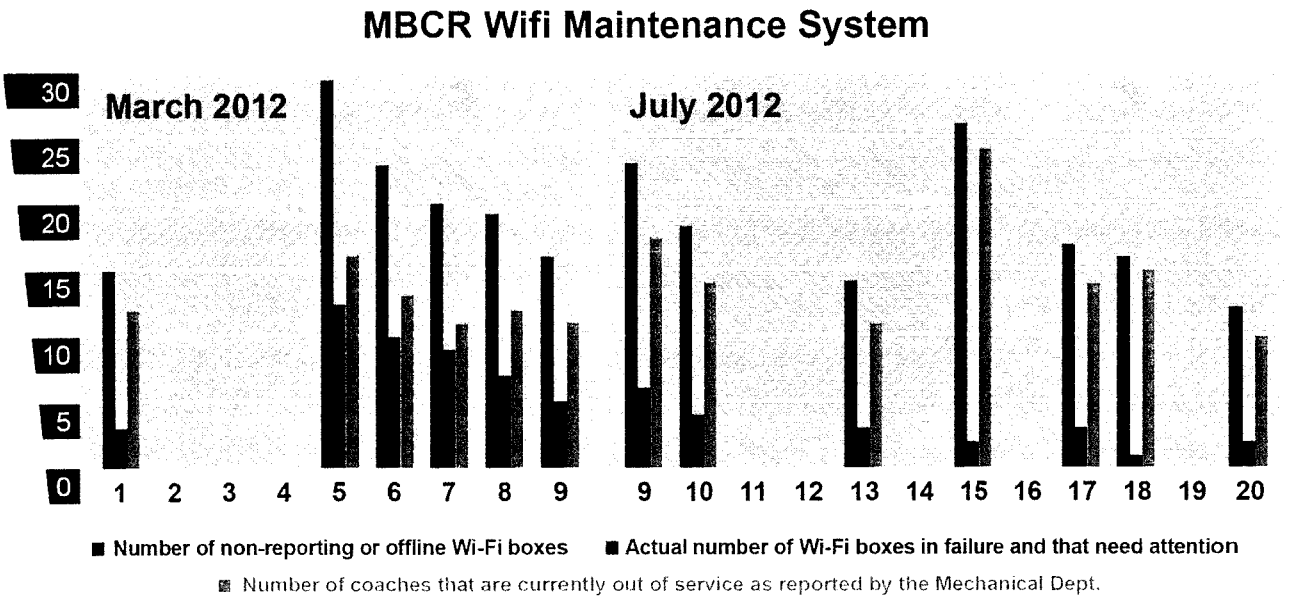
Our Signal and Communications plans also include recommended Supplemental Work to achieve our shared goal of reducing failures and upgrading systems. MBCR's signal group is instrumental in ongoing capital improvement and system expansion projects including creation of new signal system and track switching mechanisms for the Fitchburg and Haverhill Commuter Rail line improvement projects.

Communications

MBCR Communications technicians have considerable experience designing, maintaining and repairing the MBTA's communications equipment to ensure Good Working Condition. This includes the sign systems at North, South and Back Bay Stations and camera systems at 30 locations with over 100 cameras. MBCR radio technicians have also replaced locomotive and control car radios, portable radios, mobile radios and base radios.

MBCR has added communications, networking, and signage associated with system expansion, including the Greenbush expansion, the addition of three stations on the Fairmount line, and new stations at Yawkey and TF Green.

In order to provide the MBTA and Commuter Rail passengers with the highest level of Wi-Fi availability, MBCR designed and developed a maintenance system that monitors the status of all Wi-Fi coaches and generates a daily report of unusual occurrences. Since the implementation of our maintenance system in March 2012, Wi-Fi availability has improved from 94% to close to 99% four months later. To illustrate this improvement over time, the chart below shows the results of data we collected on certain days in March and July of 2012:


MBCR Wifi Maintenance System
March 2012
July 2012
30
25
20
15
10
5
0
1 2 3 4 5 6 7 8 9
9 10 11 12 13 14 15 16 17 18 19 20
Number of non-reporting or offline Wi-Fi boxes
Actual number of Wi-Fi boxes in failure and that need attention
Number of coaches that are currently out of service as reported by the Mechanical Dept.

Our expertise with the current system positions MBCR to be the ideal partner for the MBTA and its new Wi-Fi provider to allow for a seamless transition and continuous support. In addition to Wi-Fi and other Communication systems support, MBCR will partner with the MBTA on the following types of initiatives:

- Installation and maintenance of an AEI tag reader system; MBCR has installed a prototype and plans to install readers at each train consist entry point into the maintenance facilities at CRMF, Readville and Widett. Each reader will be connected into the corporate network via a TCP/IP connection where data on train set locations at maintenance facilities will be integrated with the proposed consist management system. We will use a combination of wired and wireless solutions to allow for an accelerated installation schedule while maintaining a high reliability system.
- MBTA installation of Positive Train Control (PTC) safety systems on the Commuter Rail network. MBCR Engineering leaders have expertise and capabilities to support the implementation.
- Replacement of the radio dispatch system as necessary. The new system will have greater reliability and flexibility when adding or moving dispatcher positions.
- Installation of five to ten additional Supervisory Control and Data Acquisition (SCADA) systems each year to improve OTP. MBCR designed, manufactured and deployed a SCADA system that replaced a system originally installed on the Old Colony lines. With a web-based interface and immediate text messaging of alarms to managers, this system has the ability to alert MBCR forces to failures before they affect service.

Train Control Systems

MBCR personnel are fully trained and qualified to maintain the programmable logic controllers used for supervisory control as well as all electronic equipment used for train control systems, including code servers, code emulators, and Vital Processor Control interlocking. MBCR's C&S group has developed and designed system-wide signal design software for MBTA-standard programs. Through acquisition of software compilers from signal manufacturers and the availability of qualified technical personnel on staff, MBCR can complete software testing and troubleshooting without relying on manufacturer and supplier resources. MBCR will continue to use Vital-Sim software to test software in the office prior to field installation. This enables us to correct problems internally to avoid discovery of software errors during signal cutovers.

MBCR utilizes a learning program for GE Transportation's Logic Station 2.2 on creating software while at the same time maintaining DOS for Electro-Code programs. This provides control of power switch machines and DC lighting of signal lamps, offering a direct interface to Electro Code track circuits. Finally, in conjunction with our Training and QC departments, we have developed PowerPoint training for field personnel to be able to understand and read software printouts.

Railroad Bridges

The Structures (Bridge & Buildings) Division of MBCR Engineering inspects, repairs and maintains the bridge and culvert infrastructure that safely and efficiently supports the daily operation of trains. MBCR inspects approximately 1600 culverts and bridges on the MBTA system annually, with particular focus on safety, integrity and documentation. MBCR, in conjunction with the MBTA Design and Construction department, developed Bridge Inspection procedures that have been approved by the FRA and will be updated as needed when FRA requirements change. Bridge and culvert inspection and maintenance include:

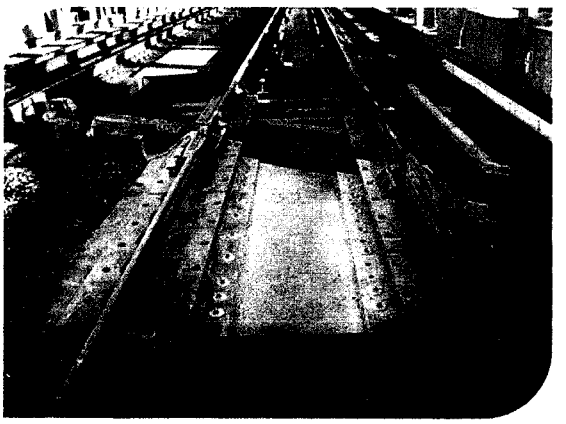
- Inspecting all structures in accordance with FRA and MBTA requirements, including monthly, quarterly, annual, emergency, underwater, and special bridge inspections, including use of thermographic cameras to perform electrical inspections
- Inspecting and repairing walkways and handrails

- Quarterly safety inspections of tunnels, including ventilation systems, niches, safety lighting, fire systems, debris, and drainage
- Underwater inspections performed by a certified professional underwater inspector on all structures crossing over water
- Repairing and replacing timbers
- Cleaning out culverts to assure proper drainage
- Cleaning bridge drainage ways
- Painting and graffiti removal to preserve a visually appealing appearance

Bridge Maintenance and Repair

MBCR will continue to perform bridge maintenance and repair work as required. MBCR worked with the MBTA during the current contract to repair numerous bridge structures, including replacement of 1600 bridge timbers on the Merrimack River Bridge in Haverhill, the longest bridge on the system.

As a maintenance innovation, MBCR has installed Ridex miter rail on moveable bridges to give customers a smoother ride and simplify maintenance. Ridex miter rail for moveable bridges is created from heat-hardened steel that is more durable than typical manganese-cast rails. Ridex rail is relatively low-maintenance and can easily be replaced by a two-person crew in approximately 30 minutes, thereby minimizing the track-outage time. MBCR Engineering continuously looks for opportunities to introduce such cost-effective maintenance innovations into the rail system.



Ridex Rail at Draw 1 improves customer ride and maintenance efficiency

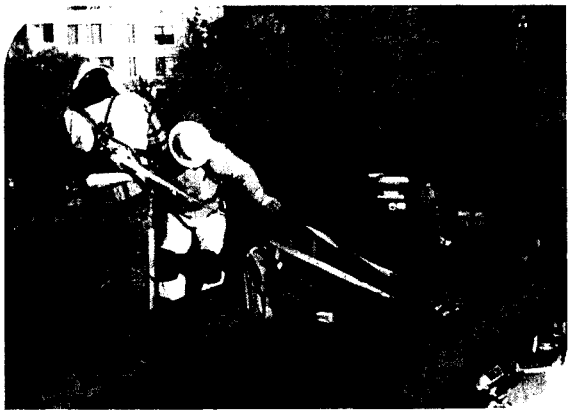
MBCR and the movable bridge group from MBCR's subcontractor, HDR, worked with the MBTA to identify, plan, design and make repairs to the Gloucester Drawbridge. These repairs took place in an expeditious manner in order to reopen the bridge with improved reliability and dependability. These examples demonstrate MBCR's significant capabilities and invaluable experience generating solutions and structural improvements within a Commuter Rail environment that has many unique aspects such as moveable bridges, tunnels and multiple types of relay equipment for signals.

In our maintenance of railroad bridges, we will continue to be fully compliant with the MBTA's replacement plans:

PLAN	COMMITMENT	BENEFIT
Timber Bridge Deck Replacement Plan	Replace at least 500 linear feet of timber bridge decking per Agreement Year	Ensures safety and resilience, while avoiding costly repairs related to deferred maintenance
Culvert Replacement Plan	Replace six culverts per Agreement Year	Improves system resilience and prevents costly repairs due to deferral of maintenance

As with the Track and Signal requirements, MBCR has the knowledge and insight to best direct Bridge and Culvert replacement resources to the locations that will have the most significant system benefit in terms of improving safety, reducing delays, speeding up service, and minimizing ongoing repair cost. For example, in Year 1 of the contract, MBCR proposes to replace 36 bridge timbers on the Stoughton Line (Coal Yard Road), 111 on the Franklin Line (Guild Street, Mine Brook and Vega

Brook), 132 on the Lowell Line (Gorham Street) and 158 on the Needham Line (MWRA, Charles River). MBCR has developed prioritized plans for additional bridge timber replacement, according to the same analysis of risk and potential benefit, for all subsequent years in the contract term.



Workers utilize fall protection systems on Merrimack River bridge

Structures Group Coordination with the MBTA

Since the MBTA independently inspects all of the bridge structures on the Commuter Rail network, MBCR proposes additional annual coordination and information sharing with MBTA bridge inspectors in the next contract. Through coordinated inspections and planning, we will work to expedite bridge and culvert repairs in order to reduce temporary speed restrictions that impact OTP and train schedules. Better information sharing promotes efficient allocation of resources from both entities, saving the MBTA time and expense, while maintaining the highest possible standards.

5.A.3 Inspecting, Maintaining, Repairing and Managing Structures, Buildings, Stations and Platforms

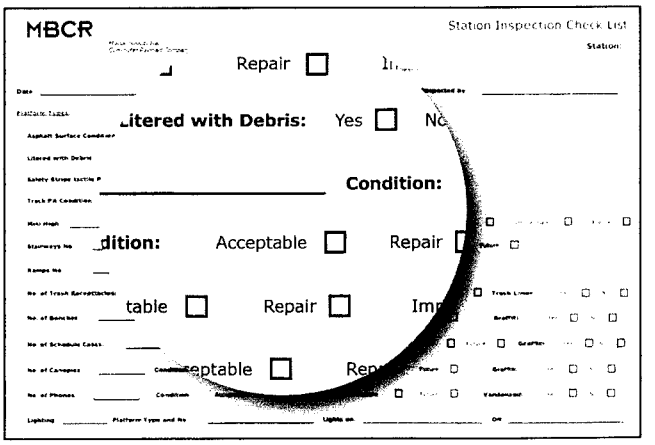
MBCR's Engineering Department inspects, maintains, and manages all of the MBTA's structures, including layovers, buildings, facilities, stations, drainage systems, culverts, switch heaters, overhead and under-grade bridges, tunnels, and pedestrian structures to a high standard to ensure their safety, cleanliness, Good Working Condition and longevity. We also closely monitor and inspect all buildings not used in performing the Agreement Services to maintain the security and safety of those assets. Our years of experience enable us to develop the right staffing plans and maintenance activities to ensure the current and future condition of the MBTA's structures.

In addition to monitoring the condition of MBTA structures, MBCR pays close attention to the appearance of all structures and their surroundings, including cleanliness and removal of graffiti. This dual commitment to functional and aesthetic properties reflects the value we place on safety and customer satisfaction.

These efforts are led by our Structures and Facilities divisions, a team of skilled professionals whose extensive experience allows a sophisticated understanding of MBTA assets' maintenance needs.

Structure Inspections

MBCR inspects all structures to ensure their safety, security, cleanliness and Good Working Condition. All of our structural inspections include digital photographs, enabling our team to quickly pinpoint defects and develop solutions before responding to the site. It also allows our Quality team to evaluate the repair against the prior condition for effectiveness of maintenance performed.


MBCR
Station Inspection Check List
Repair
Debris: Yes
Condition:
Acceptable
Repair

As required by ODRL 3.2-023 of the next contract, we will provide an annual report summarizing each structural inspection and findings regarding structural condition. Our inspections will include, but not be limited to, the following:

INSPECTION	FREQUENCY	COMPONENTS	BENEFIT
Buildings and Facilities using Facilities Inspection Form	Quarterly	Lighting; hydrants; HVAC; hoses; pumps; water distribution systems; sewage/septic systems; electrical substations and electrical systems; toilet dumping stations; in-ground air supply systems at layover facilities; fire protection systems; all fixtures; elevators	Ensures the safety of employees and sustains asset lifespans
Stations (including platforms) using Station Inspection Form	Each Station on the Service Property at least once per calendar quarter	Sewage/septic systems; fire protection systems (frequency as required by law); lighting; platform surfaces; vegetated areas within station areas; PTIS; security systems; all station fixtures	Ensures the safety and security of customers

MBCR also conducts visual inspections at least once a week and any defects encountered will be entered immediately into Trapeze EAM using a field tablet or handheld device. Trapeze will generate work orders and send them to maintenance teams for correction of the defect. Any deficient condition that presents a safety hazard for the public or our employees will be given the highest priority and corrected immediately. MBCR personnel who visit a station during the course of their duties understand their responsibility to view the station and report deficiencies or unusual activity.

MBCR will leverage Trapeze EAM's asset tracking and reporting capabilities to prepare detailed risk profiles of buildings and facilities for the MBTA. Validated by visual and historical documentation of facility condition compared to baseline, we will work collaboratively with the MBTA to analyze the relative importance of each system and the specific implications of its failure, including impact on operations, cost or the environment. This will allow better prioritization when allocating the Capital Support Allowance to those assets where it will be most impactful, ultimately preserving and prolonging their lifespans. Specifically, MBCR will analyze the following criteria, based on analysis of patterns and a risk-based ranking system, and will forward the recommendation for MBTA consideration.

- Frequency of breakage and patterns of increasing severity
- Probability of breakage
- Impact on the system (cost, safety and performance) when a component breaks
- Cost to repair breakage vs. replace

Our comprehensive asset tracking and analysis of maintenance activities will continue to strengthen our partnership and help prioritize capital projects and investments that support customer experience.

Maintaining and Repairing Structures

MBCR has over ten years' experience maintaining the MBTA's structures, including building systems, equipment, components, and utilities in Good Working Condition while ensuring their safety and security. Our Station, Building, and Facility Maintenance Program (ODRL 3.2-040) outlines maintenance activities for all stations, buildings, and facilities.

Buildings and Facilities

MBCR's Support Property and Facilities Maintenance Plan (ODRL 3.2-027) will be the cornerstone of our approach to maintenance and repair of the CRMF and its associated facilities and equipment. For all other major facilities, we will utilize the appropriate industry standards and warranties that cover each facility, and maintain them according to those requirements and guidelines. Our

maintenance activities will be informed by our inspection findings and maintenance manuals which will identify safety hazards needing immediate action and prevent key components from failing before the end of their useful life.

We will assign dedicated employees to each Mechanical Facility (CRMF, Southampton S&I, and Readville) to develop and leverage focused expertise with the systems and machinery present at each facility. All maintenance and repairs will be fully coordinated with the Mechanical Department to avoid interference with their activities.

To continue a clean, safe and sustainable environment, we will perform interior improvements on a minimum of five stations per agreement year. Our analysis will guide prioritization of facilities to target and will include, but not be limited to, painting, paneling, drop ceilings and new lighting.

Our ESP will include a long-range facility plan with prioritized preventative maintenance projects for installed equipment such as cranes, wheel truing machines, drop pits, train washers, and other machine shop equipment. We will set aside an annual allocation of $100,000 within the Annual Fee to support our Rolling Stock Support Equipment (RSSE) Normal Replacement Program in accordance with ODRL 3.2-032. Structures and Facilities managers and forces are fully experienced with MBTA/MBCR facilities and are specifically trained to operate equipment and execute tasks to maximize sustainability.

Conserving Energy

MBCR Structures & Facilities professionals will continue developing and installing systems to remotely monitor facility health and energy usage. Energy conservation strategies will be documented in ODRL 3.2-097 and 098, and actual conservation and utilization will be reported in ODRL 3.2-095. We will audit electrical usage with utilities to reduce energy consumption. The table below demonstrates our success reducing energy usage and cost through lighting retrofit initiatives:

CHALLENGE: ENERGY USAGE AT FACILITIES

Approach

Identify and prioritize high impact initiatives to reduce energy consumption at CRMF, Southampton and Readville facilities.

Partnered with utility company for complete interior and exterior retrofit of all lighting fixture types:

- Replaced Metal Halides with induction fixtures;
- Replaced high pressure sodium wallpacks with LED wallpacks;
- Replaced T-12 fluorescent pit lighting with new T-8 vaportite fixtures;
- Retrofitted the trailer offices, locker rooms and break rooms with wireless sensors and fluorescent fixtures;
- Replaced Metal Halide Cobra head post top street lighting fixtures with LED fixtures.

Results

1,322,805.5 kWh savings per year

MBCR is also exploring additional ways to enhance energy management at all Commuter Rail facilities. This includes wireless Supervisory Control and Data Acquisition (SCADA) systems which carry transmissions for heating and lighting control information. We will continue with these types of programs, in partnership with the utility and the MBTA.

We have also performed due diligence for an Improvement Proposal to increase renewable energy usage by installing Solar Panels on the rooftop at the CRMF (please see Supplemental Appendix 3). Our environmental subcontractor, ARCADIS, has assisted us in studying the feasibility of this Proposal, including potential energy and cost savings, and the findings are encouraging. MBCR hopes to review this Improvement Proposal with the MBTA after Notice to Proceed.

Stations

The passenger experience begins and ends at one of the MBTA's stations. MBCR has been committed to ensuring a pleasant experience each time a customer utilizes a station. Customers expect a secure, safe, and clean environment and these three principles guide all of our activities. We also ensure access to information through maintenance of schedule cases and informational signs.

MBCR will continue to build on our experience and past performance for our Station Maintenance Program, taking into account all seasonal considerations. This Program, as part of ODRL 3.2-040, will guide our maintenance activities for each year, including necessary staffing requirements. These activities will also be informed by any deficiencies identified during station inspections. Any deficiencies that present a potential safety hazard will be resolved immediately.

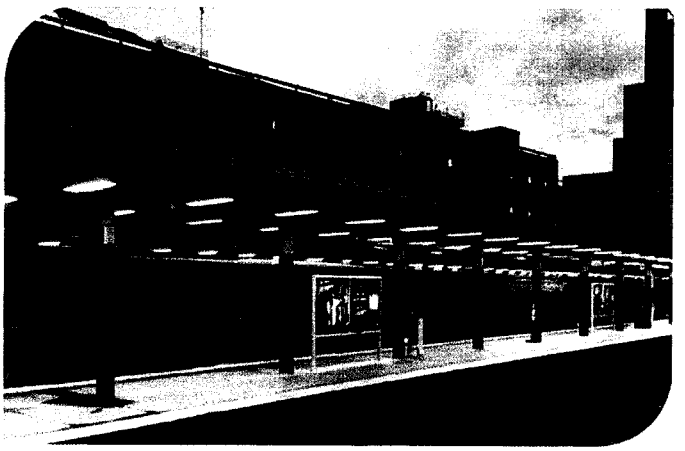
Secure and Safe

We will continue to assess conditions to maximize the security and safety of the MBTA's customers:

- Ensuring adequate lighting; dedicated lighting crews inspect and maintain continuously
- Repairing parking areas, including fixing potholes expeditiously
- Keeping platforms free of defects with appropriate warning stripes or tactile edges
- Correcting concrete or asphalt failures as soon as discovered
- Maintaining elevators in Good Working Condition, where applicable, through our licensed subcontractor and maintaining contractors on call for emergencies
- Quickly removing ice or snow from all platforms, walkways, ramps or parking areas according to our Snow Management Plan

Clean

MBCR has and will continue to demand a high level of cleanliness at each station. Every facility will have custom-tailored cleaning plans as part of our Station Cleaning Schedule. Our activities will be prioritized by degree of station use. Specific tasks will be completed at pre-determined intervals and will undergo regular review to measure effectiveness. In particular, MBCR will quickly eradicate all instances of graffiti. Daily observation of station conditions will ensure that areas remain clean and free of litter, paper, cigarette butts, food and other debris. Our Plan will fully comply with all of the MBTA's cleaning requirements. Examples of our activities include:



MBCR is committed to station cleanliness

- Visual inspection of station cleanliness and station components (Daily)
- Empty all trash receptacles and install new liner (Each visit)
- Pressure wash platforms (Semi-annually)
- Wipe clean station benches (Each visit)
- Remove graffiti and unauthorized postings from station buildings, canopies, shelters, and platform surfaces (Each visit)
- Clean station schedule cases and LEDs (Monthly)

- Patrol and remove all broken glass and litter from platform areas and MBCR-controlled parking lot areas (Each visit)
- Remove abandoned shopping carts from platform areas
- Maintain recycling bins for newspapers and other materials, including proper disposal

Station cleaners will enter and track cleaning activities in Trapeze EAM, which will allow managers to confirm that all requirements were performed and capture data to look for recurring trends to adjust maintenance plans accordingly. As validation of our improvements in station cleanliness, MBCR experienced a 21% reduction in station-related customer complaints between 2011 and 2012, with a continued downward trend in 2013.

Landscaped

Trees and greenery surrounding the station complement the passenger's experience. MBCR will continue to deliver a well-manicured landscape for all Commuter Rail stations. Our approach is consistent with our Sustainability program and seeks to reduce waste and prevent water or soil pollution. We also implement pest control measures that avoid or minimize the use of chemicals. Some of our activities include yearly pruning of all trees and shrubs and re-mulching beds; replacing all dead or diseased hedges, shrubs, and trees on an as needed basis; ensuring all grass is cut every two weeks; and keeping all platforms and parking areas weed free.

Sustainable

For over ten years, MBCR has proudly served the MBTA and the local communities that surround its Stations. We have consistently looked for "green" innovations that positively impact local communities by providing a more sustainable environment. As described in the previous paragraph, our sustainability commitment also extends to our approach in maintaining the landscape that surrounds the stations. At any station with more than 100 passengers per day, we will provide recycling bins and services to sort and remove contents on a regular basis.

Similar to our approach at MBTA buildings, we will continue to focus on energy management of the MBTA's stations, including reducing energy consumption through lighting projects such as replacing T-12 lamps with more efficient T-8s and replacing bulbs with LEDs where appropriate. We will continue to follow the MBTA's leadership in focusing on energy management and reduction and will support and partner with the MBTA on aligned sustainability initiatives.

MBCR and the Hubway

MBCR supports a multi-modal culture and contributed to the installation of a Hubway bike sharing system at South Station. The Hubway allows riders to rent a bicycle from a station, keep it for 30 minutes, then return it at any station. In addition to the Hubway, MBCR will maintain functioning bike racks at all stations to support our customers' interest in accessing the Commuter Rail via bicycle to reduce congestion and car usage at stations and terminals. Additionally, specially configured bike coaches on the Newburyport, Rockport and Cape Cod lines enable customers to take their bikes to beaches and other towns every weekend from Memorial Day weekend through mid-October.

MBCR-sponsored Hubway features 600 bicycles at 60 locations throughout Boston

MBCR's goal is to complete capital improvements at five stations per year to ensure that every station, where feasible, has a bike rack, bench seating, functioning lights, a canopy and Customer Service wayfinding posters that give customers various types of helpful, relevant information.

5.A.4 Operating the MBTA's Fleet of Non-Revenue Vehicles and Railroad Work Equipment Vehicles

MBCR has a fleet of over 400 vehicles (including Hi-Rails) that are used in the maintenance of the infrastructure. MBCR Engineering approaches maintenance of non-revenue and work equipment vehicles with the same principles of quality, sustainability and cost efficiency outlined in previous sections. Our Safety and Training programs ensure our continued adherence to MBTA requirements while our standards of utilization and maintenance serve to preserve the lifespan of the fleet and associated assets. Our Learning Management System (LMS) will improve our ability to perform annual audits to ensure drivers' licenses are up-to-date and that employees are fully trained and qualified to operate equipment.

MBCR plans to move toward dedicated subcontractors based on geographical locations for vehicle preventative maintenance and repairs. This option will provide more cost efficient and expedient repairs and prolong asset lifespans.

A number of initiatives demonstrate MBCR's full understanding of and alignment with the MBTA's objectives for Operation of Work Equipment vehicles, including:

- Dedicated program of refurbishing equipment off-season to ensure readiness for seasonal work, including snow removal, slippery rail, drainage or construction
- Development of a formalized training and qualification program, including on-the-job skill development and supervisor checklists to confirm competency and safety

MBCR's use of Trapeze EAM to track maintenance and repair history enables us to get more hours out of existing equipment through our scheduled preventative maintenance program. Use of non-revenue equipment can be highly variable and the equipment must be properly maintained and ready for use at any time. For example, ARRA projects dramatically increased equipment utilization. Our effective maintenance and repair program has enabled us to increase utilization of existing equipment, achieving more service hours and maximizing efficiency.

Our effective maintenance and repair program has enabled us to increase utilization of existing equipment, achieving more service hours and maximizing efficiency.

We will utilize Trapeze EAM to ensure that correct parts are available in inventory and that vehicles and equipment are maintained to specific standards at required frequencies. As repairs are completed, the database will be updated and made available to the MBTA, allowing query of the system for repair type, quantity, and costs. Trapeze EAM provides the ability to rate the overall dependability of each piece of equipment, while evaluating the effect of breakdowns on work gang productivity.

End of Life or Repair (ELOR) Vehicle Tracking Tool

MBCR tracks the repair frequency and repair cost history of MBTA-owned vehicles and equipment. An equipment database in Trapeze EAM supports MBCR's efforts by centralizing storage of repair data by vehicle and tracking the trajectory of asset deterioration as it extends beyond its useful life. This data will help MBCR and the MBTA make informed decisions in planning for and identifying the funds to replace equipment as it reaches the end of its useful life. Our goal is to maintain "readiness and dependability" of each vehicle and piece of equipment, at an optimum fleet cost:

- Ensure equipment availability and that it is in good condition to perform work at any time
- Plan to replace a portion of the vehicles each year throughout the term
- Confirm that no piece of equipment is costing more than it would cost to lease

Commitment to Reducing Environmental Impact

MBCR Engineering will benchmark other agencies for sustainable practice in purchase and operation of vehicles and equipment. Our goal is to increase the fleet's percentage of green vehicles each successive year. Another example of our environmental commitment is the use of GPS technology to monitor and prevent unnecessary vehicle idling. Engineering personnel receive alerts when a vehicle idles for a set period of time, allowing us to notify the operator. In addition to monitoring vehicle speed and location, this practice reduces wasted fuel and emissions.

We use GPS technology to monitor and prevent unnecessary vehicle idling. This practice reduces wasted fuel and emissions.

5.A.5 Surveys, Track Design and Construction Inspection

MBCR will perform surveys, provide track/civil designs and perform inspections, as well as QA/QC inspection and documentation, as part of required construction phase services. MBCR's in-house survey forces provide data to support design development. Our crews determine property lines, track layouts, bridge timber plans and carry out other survey work as needed. These crews utilize GIS software to view maps and, through a relationship with Transit Realty, are able to access the latest information to determine MBTA property lines.

Our subcontractor HDR Engineering supplements these capabilities as needed with design, engineering and construction phase professional services. Collectively, this team has the required skills to efficiently drive all required tasks through design, construction and commissioning. This team works closely with other operating departments, as well as the MBTA, to develop appropriate task-specific scopes, schedules and budgets that serve as blueprints to drive designs in real time. MBCR and HDR developed improvements for the Worcester Line using RTC to determine the most cost effective infrastructure upgrades.

5.A.6 Freight Only and Unused Rights of Way (ROW)

MBCR understands that freight only and unused ROW present challenges due to their infrequent use and are subject to periodic vandalism and illegal dumping. MBCR understands that properly maintained ROW is an important aspect of MBTA and MBCR public image.

MBCR will continue to inspect unused ROW and freight only tracks as required by FRA and the MBTA. These inspections will be frequent enough to detect dumping and/or theft in these areas and to remediate these instances. MBCR Engineering will support a positive customer perception by keeping these areas tidy and free of unnecessary debris. We will evaluate and implement physical barriers such as existing fences and limit access points to sites as necessary.

Through our Zone plan structure, Managers will continue to meet with the leadership of every community along lines to develop collaborative relationships and shared objectives with local police and fire departments. It has been MBCR's experience that a combination of scheduled inspections, rapid response to unwanted ROW usage, and engagement with local authorities to assist with prevention is an effective approach to maintaining unused ROW.

5.A.7 Integrating New Technologies and Work Practices

MBCR will partner with the MBTA to evaluate and implement new technologies, materials and methodologies to determine their suitability for widespread use and integration into the Commuter rail enterprise system. As we integrate new technologies and new work practices into our organization, we effectively manage the resulting changes that impact our employees through appropriate employee input into planning of new systems, communication of benefits, and necessary training on appropriate tools and practices. Our approach empowers employees to embrace the changes and regard them as positive steps that improve system safety and productivity.

Throughout the existing contract, MBCR has introduced and managed numerous new technologies and work practices independently and in partnership with the MBTA. These technologies and work practices have improved safety, operational efficiency, customer communication, system maintenance, maintenance processes, asset sustainability, network initiatives and track speed.

Integrating the new Wi-Fi maintenance system to maintain active boxes

In May 2011, the original manufacturer of the MBTA's Wi-Fi system disabled MBCR's access to the web based maintenance console at the close of the MBTA's software maintenance agreement. As a result, MBCR was left with no way of accessing the system to maintain the active boxes and this posed a risk of system degradation and failures. To remedy this situation, MBCR Communications developed a combination of software applications and web based mapping interfaces that gave us back the ability to access the Wi-Fi boxes remotely. These applications, along with customer reports, have enabled us to react quickly to failures and keep the system running reliably.

MBCR developed a system with three core applications:

GPS Server

- Web based mapping interface
- Access to individual coach Wi-Fi units using a scroll menu
- Ability to plot locations on maps in real time
- Live statistics that can be actively graphed (number of active users logged in, maximum number of users during session, total network usage per cell modem, average network usage, speed of coach)

GPS Proxy

- Allows the web application to redirect Wi-Fi box data to technicians using the web interface

Wi-Fi Scanner

- Checks the operational status of all Wi-Fi boxes every day and generates an exception report accessible via the web interface
- Exception report displays the coach number, Wi-Fi box number, IP address, Box SSID and days since last response
- Technician uses exception report along with out of service sheets to determine if Wi-Fi box is down
- Technician updates an Excel spreadsheet to indicate overall system failures weekly

In addition to developing the maintenance system, MBCR Communications used the network usage information to assist the MBTA with questions about cell provider costs. The MBTA was being charged with overages past a certain data amount and costs were going up quickly. This information was instrumental in helping the MBTA renegotiate for unlimited data usage to curtail the overages.

In addition, the software helped MBCR discover that close to the end of each month, the exception report showed a high failure rate. It turned out that when the cell modem reached 5 Gigabytes within a billing cycle, the box's IP address was shut down. As a result, customers still had use of the internet but we lost remote connectivity. This was a red flag to let the MBTA know they had exceeded their limits and to give the MBTA greater indication of what the customers' bandwidth demands were.

Future Commitment to Integrate New Technologies and Work Practices

Within the next contract period, MBCR will introduce or expand an array of technology solutions to support efficient work practices and improved performance within the Engineering Department. The following commitments will enable us to meet our inspection, maintenance and repair obligations faster, better, and more cost effectively. In each case, we are committed to achieving employee buy-in to these changes through planning involvement, thoughtful timing, and comprehensive training that will ensure competency and enhancement of existing work processes for applicable personnel.

- Expanded Trapeze EAM implementation
- Use of field computing devices (hardened tablets and PDAs)

- Engineering Planning Team and use of scheduling software
- Use of SCADA systems to remotely monitor and increase efficiencies of engineering systems
- Development of Commuter Rail specific PTC solutions working with the MBTA and its consultants to comply with FRA PTC implementation target dates

5.A.8 Enforcing Third Party Warranties

MBCR recognizes the importance of financial responsibility in all aspects of Commuter Rail operations. We will enforce third party warranties and eligibility for warranties, protecting investments in capital assets by MBCR and the MBTA. MBCR will aggressively administer all warranties according to a three-pronged strategy.

- Organization of warranties with associated assets

  MBCR will leverage Trapeze EAM to collect, organize and enforce warranties by tying warranty information to the corresponding asset, tracking and maintaining data about defects, and identifying if an item is covered under warranty when repaired or replaced. When the system generates an automated work order, the program will check the database for active warranties and capture the warranty terms on the work order.

- Operation and Maintenance in Compliance with Manufacturer's Guidelines

  MBCR staff is trained in work practices and equipment operation that does not compromise warranty eligibility. Through our Training and Quality Departments, MBCR will refine existing procedures to ensure our maintenance processes comply with manufacturers' standard recommended practices and with the applicable State and Federal codes, laws and regulations. The activities in our Engineering Quality Assurance Plan will be in full accordance with the terms of manufacturers' warranties to ensure the MBTA's eligibility to pursue warranties in the event of equipment or material problems.

- Fulfillment of Warranties When There are Defects

  We will continue to assist the MBTA in fulfillment of any warranty obligations and will aggressively pursue all warranty claims on behalf of the MBTA. Steps to comply with the MBTA's warranty-related requirements will be detailed in MBCR's Warranty Control and Administration Plan, according to ODRL 3.4-33.

5.A.9 Comprehensive and Up-to-Date Inventory Control System

Commitment to Inventory Management Accuracy

MBCR has an existing inventory plan and brings significant institutional knowledge to the process of inventory management in the MBTA Commuter Rail environment. We currently use inventory counts to reconcile amounts with reported quantities. MBCR also ensures that materials are strategically located and restocked to maximize efficiency while minimizing theft and vandalism. Crew trucks are stocked with standardized materials and toolsets for minor repairs and emergencies to bring efficiency to standard daily engineering activities. MBCR will implement the industry-proven practice of "just in time" delivery where appropriate.

MBCR Experience will Streamline the Transition to Trapeze EAM

MBCR will prepare an Inventory Maintenance Plan for MBTA approval, according to ODRL 3.4-13. This plan will govern all inventory needed to maintain the Service Equipment, Service Property and Support Property.

With full utilization of inventory management functionality in Trapeze EAM, MBCR will augment existing material reporting and restocking capabilities. Trapeze EAM work orders include all

materials drawn from the warehouse. When work is completed, a field handheld device is used to input repair information to Trapeze EAM, including materials that were installed, crew size, and hours required to complete the work. Quality Assurance/QualityControl inspection ensures complete documentation in Trapeze EAM. This will ensure that the required materials are readily available to meet daily Engineering maintenance needs.

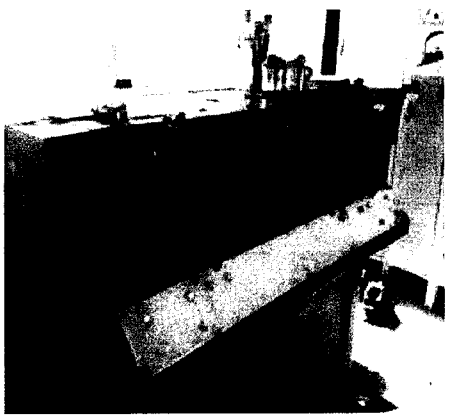
MBCR's Inventory Management system will be enhanced by implementation of a bar coding system for inventory issuance and receipt of materials. This system will link with Trapeze EAM and provide significant efficiencies for stores and engineering staff. Bar coding will ensure accurate, real-time inventory reporting that saves time and prevents errors.

MBCR's Great Plains financial accounting system will maintain the inventory of record, and all transactions between the warehouse, engineering maintenance, and repair crews will be completed in Trapeze EAM.

5.A.10 Completing and Undertaking Supplemental Projects

In addition to day-to-day maintenance activities, MBCR Engineering works in concert with the MBTA on capital improvements that range from signal and communication system replacements to major rehabilitation of track, ties, bridges or replacement of non-revenue equipment. Programming and coordinating necessary capital improvements is a crucial activity to support ongoing operation of the railroad. We have reviewed the projects from Addendum No. 10 Appendix 1 to Schedule 3.11 and are confident we are the right team to partner with the MBTA on these projects. Our track record and experience are critical assets to support MBTA capital projects that involve major replacement or repair of infrastructure. The following examples illustrate MBCR's range of capabilities:

- Greenbush Line Opening – In 2007 the MBTA was preparing to resume train service on this newly rehabilitated line. MBCR provided signal labor, design and management personnel to support the design/build contractor to ensure revenue service by the target date.
- Green Line Tie Replacement – MBCR replaced 14,000 ties on the MBTA's Green Line at Reservoir Branch between Newton Highland and Reservoir.
- Grand Junction Transition – Within 24 hours, MBCR qualified track foremen and dispatchers on the newly acquired Grand Junction Line. Within 90 days, we replaced 4,000 ties and seven defective rails between Swift Interlocking and Beacon Park. This 2010 initiative enabled successful transition of the dispatching function to move trains between the north and south sides of the Commuter Rail system to MBCR.
- Gloucester Trunnion Replacement (2010) – MBCR managed the design, purchased the required materials for fabrication and replaced the three trunnions on this 100 year old bascule bridge. Construction outage was limited to nine days. This work improved the track condition from accepted track condition (max. speed of 10 MPH) to Class 2 Track (max. speed of 30 MPH).
- CP-43 – MBCR installed a new interlocking at CP-43 (Derby) to increase reliability and operating flexibility and to shorten trip duration from Fitchburg to Boston.
- Worcester Line - MBCR is assisting the MBTA in the Worcester Line transition by modifying track and signal systems through a normalization process, supporting the relocation of the Worcester Line dispatching system from CSX to the MBTA's Commuter Rail Operations Control Center (CROCC) at Cobble Hill, purchasing and installing radios, purchasing communication code line material, and temporarily leasing employee headquarters



Retirement of Waltham Tower: the last mechanical tower on the Commuter Rail system

› Retirement of Waltham Tower - The last mechanical tower on the Commuter Rail system was put into service in 1933. MBCR recently completed retirement of the tower and transitioned control of the interlocking to the CROCC.

With MBCR's ongoing involvement in various capital improvement projects, such as the Small Starts programs on the Fitchburg Line and the Green Line extension adjacent to the Lowell Line, we will provide critical support and continuity for plans, programs, testing and documentation. With large projects in the MBTA's potential pipeline (e.g. New Starts, system expansions), MBCR brings a breadth of institutional knowledge, network modeling assets and a solid track record in major upgrades, construction and expansion.

Upon Commencement, the new Engineering Planning Team will coordinate all departmental work and supplemental requests to ensure all work is completed efficiently with minimal disruption to train service. This Team has full access and understanding of all departmental and supplemental work needs and will coordinate requests to streamline these projects, including use of appropriate personnel, track time, materials and equipment. With all work projects visible in Trapeze EAM, all interested parties will have a transparent view into supplemental work activities, including dependent work tasks and milestones. MBCR's centralized work scheduling will result in effective project management, greater productivity of each track outage, and most importantly, the safest possible construction zones on the MBTA Commuter Rail network.

Wreck Clearing

MBCR has not had a track-related derailment to date.

MBCR has maintained an outstanding safety record and is focused on the prevention of train accidents and derailments. MBCR has not had a track-related derailment to date. Although we are proud of this accomplishment and work hard to build upon it every day, we understand the importance of effective contingency planning for emergencies.

In the event of a wreck, MBCR's plan entails coordination between the Engineering and Mechanical departments to clear the wreck and restore the railroad to operating service as expediently as practicable, while ensuring that worker and public safety is not compromised. MBCR Engineering will handle any necessary restoration of track, ties, signals and any other elements of the ROW that are impacted.

Collectively, the MBTA and MBCR operate specialized equipment used to clear wrecks and restore train service. MBCR also works seamlessly with Pan Am Railways and Amtrak, maintaining relationships that allow us to utilize additional specialized materials and equipment that may be needed in wreck clearing situations. In the event that additional resources are required, MBCR has arranged parterships with world class rail contractors LM Heavy Civil, LLC (LMH), its parent company Cooperativa Muratori & Cementisti (CMC) di Ravenna, and RailWorks, to provide additional equipment and materials as needed for emergencies. These highly experienced partners are available to work with MBCR to clear wrecks, restore infrastructure and re-establish service as quickly as possible.

MBCR Safety will lead all wreck investigations, in coordination with outside agencies, and with collaboration of Engineering, Mechanical, and Transportation departments, to determine the cause of wrecks and to prevent future occurrence.

5.A.11 Performing Environmental Services

These next three elements describe our organizational approach to meeting the MBTA's requirements, including those outlined in ODRL 3.8-001 to 044, while fostering sustainable practices throughout the organization. In the performance of all environmental services, MBCR is committed to the following approach:

› Build on an outstanding compliance track record and past initiatives at all facilities

› Utilize KPIs, such as CO_2 emissions, KWh usage, and water and hazardous materials reduction, to monitor the effectiveness of our Sustainability Plan

- Continue cooperation with highly experienced subcontractors to meet contractual requirements
- Provide comprehensive oversight of subcontractors through MBCR's Environmental Department

MBCR Has an Excellent Environmental Track Record

Since 2003, MBCR has achieved 100% environmental compliance (zero permit violations) at all facilities and along the 575 track mile ROW that encompasses 98 communities. MBCR's Environmental Staff and our subcontractors have also shown exceptional commitment to safety during all operations and maintenance activities by being injury free for the length of the contract.

MBCR has had 100% environmental compliance at all facilities and along the 575 track mile ROW.

Our Manager of Environmental Compliance has over 12 years of experience working in the Commuter Rail Environmental Department and fully understands the environmental dimensions of Commuter Rail operations. MBCR has developed excellent relationships with key stakeholders, including the MBTA, Federal and State regulators, local fire departments and conservation commissions through our responsiveness to environmental concerns. These local relationships will be strengthened by the full implementation of MBCR's Zone Plan. Our record includes environmental compliance accomplishments over and above contract requirements such as additional skimming and cleaning of oil/water separators, placement of track mats at locations where locomotives are stored, and obtaining fire and culvert permits from local agencies.

MBCR is Committed to Sustainability and Social Responsibility

MBCR is a proud signatory of the American Public Transportation Association (APTA) Sustainability Commitment, agreeing to adhere to its core principles by engaging in activities that establish the basis for continuous improvement on key sustainability elements.

MBCR has integrated many sustainable practices into the daily operations of the Commuter Rail. Going forward, we are developing a formal Sustainability Plan to identify and drive sustainable improvements in the future (please see Supplemental Appendix 3). This Plan will establish a long-term commitment to build sustainability into the core business at MBCR. The Plan is structured using a select list of KPIs with specific goals to improve in the areas of energy, water, waste, material use and land management.

Senior managers and their staff share responsibility for the successful implementation of the Sustainability Plan. MBCR has created a Sustainability Committee that includes management staff who will meet internally on a bi-monthly basis to discuss and approve new initiatives and monitor the achievements of the actions and goals set forth in the KPIs.

Sustainability Plan aligns with MBTA and GreenDOT priorities

MBCR's environmental compliance work has expanded to support the MBTA and the Massachusetts Department of Transportation's GreenDOT Program. Many of the KPIs in our Sustainability Plan parallel GreenDOT KPIs.

MBCR has been promoting sustainable practices since contract inception in 2003 by incorporating environmental sustainability into the design construction, operation, maintenance and renovation of the MBTA facilities and fleet.

- Reducing greenhouse gas emissions
- Supporting and integrating Emergency Preparedness
- Promoting healthy transportation (to support the Commonwealth of Massachusetts Transport Compact of 2009)

In accordance with our commitment to sustainability, following are examples of our previous and ongoing initiatives to reduce energy consumption and explore environmentally friendly alternatives:

- Pursue a retro-lighting program to derive energy and cost savings
  - At three major mechanical facilities (CRMF, Widett Circle S&I and the Readville Coach Shop), we replaced high consumption lighting fixtures with more efficient technologies. The current total annual energy savings is 1,322,805 kWh per year. MBCR is committed to additional energy savings and continues to upgrade fixtures and lighting at all facilities.
- Implemented Track Mobile at CRMF to reduce locomotive run time and emissions

CRMF Train Wash BEFORE Lighting Retro-Fit

CRMF Train Wash AFTER Lighting Retro-Fit

- Used soybean-based oil to lubricate switches instead of graphite or used motor oil
- Reduced hazardous waste generation by switching from petroleum naptha parts washer products to a bio-aqueous parts washer solution that produces no hazardous waste
- Conducted passenger outreach and awareness at Stations by providing paper recycling bins and MBCR Go Green initiatives fliers with passenger tips

MBCR also developed the following initiatives to enhance safety and support sustainable operations:

- In 2003, MBCR established the Chemical Assessment Safety Team (CAST) to assure that MBCR uses the safest chemicals available to our railroad. The CAST reviews and approves all chemicals before they are purchased and ensures that they are the least harmful to the environment while still performing the necessary function.
- MBCR developed and implemented a Waste Minimization and Management Plan to ensure the proper handling and disposal of hazardous, non-hazardous and universal wastes along with waste minimization efforts. MBCR requires all transportation contractors to reduce, reuse and recycle hazardous waste, such as waste oil and used oil filters.
- MBCR utilizes an online Material Safety Data Sheet (MSDS) database to maintain and provide MSDS' to all employees via the kiosks or any MBCR computer.

Veolia Environmental Audits Measure and Verify Compliance

In addition to contract and regulatory audits, MBCR participates in two types of Environmental audits provided by our partner Veolia. These audits evaluate each location's environmental performance, impacts and risk level using a standardized scoring system (see example below). The audit culminates with an action plan that identifies and addresses all discrepancies found during the review, and is distributed to the MBCR Environmental Department for corrective actions if required.

We perform Facility Environmental Compliance Audits at the CRMF, Widett and Readville Mechanical due to their size and the number of permits at each location. The audit allows us to annually review not only our practices but also those of our contractors. It covers permits, plans, AST/UST compliance, waste accumulation and disposal, water management and recordkeeping. The audits are scored from a low to high risk and all three MBCR facilities have been categorized as a low risk since 2003.

All three MBCR facilities have been categorized as a low risk since 2003.

Veolia's Environmental Compliance Audit Aspect scoring procedure utilizes a risk matrix, categorizing the risk of over 25 business activities (including wastewater, fueling, vehicle washing, and USTs/ASTs) according to three different categories, with low numbers signifying low risk:

- **B – Business Impact** – impact on the organization's ability to carry out its business operation.
- **D – Degree of Impact** – degree of potential impact, positive or negative, upon the environment.
- **L – Legal/Regulatory Requirement** – legal and regulatory requirements associated with the respective activity, product or service.

Sample VEOLIA Environmental Compliance Risk Assessment Scoring Table

Activity/Service	Environmental Aspects	Impact Detail	B	D	L	S	R
Spill Control	Spill/releases to environment	Ground/water pollution	1	2	2	5	L
Emissions	Tailpipe and A/C emissions	Air pollution	2	2	3	7	M

S=Total Risk Score; R=Risk Level Low (L), Medium (M) or High (H)

In 2008, Veolia began an Environmental Information System Campaign that reports our Corporate Social Responsibilities following the Global Reporting Initiative 3.1. This measures the steps we have taken to develop sustainability into a business practice. MBCR has participated in this campaign and evaluated ways to improve items such as energy efficiency and emissions. As a result, over the past four years we have seen reductions in energy consumption, CO2 emissions and waste production with increases in waste paper recycling.

Experienced Subcontractors Support Operation, Maintenance and Service of all Environmental Systems

MBCR has contracted ARCADIS to perform the majority of the subcontractor work involved in the contract. With the ARCADIS team's ten-plus years of continuous environmental support services on the commuter rail property, ARCADIS has a comprehensive understanding of the contract requirements and the approach required to support environmental compliance.

During the transition in 2003, current ARCADIS staff members performed an audit of the Commuter Rail system to determine MBCR's environmental obligations. This work laid the foundation for MBCR's successful compliance program, as well as continued collaboration to drive improvements.

The Environmental Management System (EMS) was introduced in 2008 to efficiently track environmental permits, plans, inspections and reports. This makes it easier for MBCR to meet all of its environmental compliance obligations and provides transparency for the MBTA, as well as confidence that these obligations are being met.

Subcontractor Scope of Work

MBCR will continue to subcontract three major components of the Environmental Scope of Work:

- Professional and Compliance Services
- Industrial Wastewater Treatment System Operation and Maintenance (O&M)
- Environmental Infrastructure O&M

The work described below is performed by the ARCADIS Team, which consists of ARCADIS and its sub-consultants H&S Environmental, Inc. (H&S), All and Inclusive Environmental, Inc. (AAI), EST Associates, Inc. (EST), Wind River Environmental, Inc. (Wind River), and P&M Environmental, Inc. The work of this team is performed under the direction of MBCR's Manager of Environmental Compliance, and is reviewed regularly by MBCR Management.

Professional and Compliance Services

- Permits, Certificates and Licenses – The EMS will continue to track each environmental permit and its associated compliance-related requirements. This process will be described in our Permit Management Program (ODRL 3.8-002). A full description of MBCR's maintenance of permits follows in Section 5.A.12 of this response.
- Licensed Site Professional (LSP) Services – The nature of railroad operations requires a systematic and efficient approach to spill response and LSP services. ARCADIS's team of LSPs, Massachusetts Contingency Plan (MCP) experts, and emergency response contractors will continue to provide spill response, assessment, and closure services as they have in the past. ARCADIS and MBCR will respond to spills in a manner that meets the requirements of the MCP while limiting impacts to Commuter Rail operations. Our approach includes the following:
  - Rapid spill containment and removal
  - Massachusetts Department of Environmental Protection (MassDEP) notification, as required
  - Cost-effective and innovative scope-of-work for spill assessment/remediation
  - Aggressive approach to achieving regulatory closure through risk characterization and innovative technologies
  - Preparation of required MCP deliverables, including Release Notification Forms, Phase reports, Immediate Response Action Plans, and Response Action Outcome Statements

The MBCR Environmental Department has proven reliable and effective in dealing with new and existing spills and releases. Our team has managed the closure of over 15 Commuter Rail MCP sites.

Industrial Wastewater Treatment (IWWT) System Operation & Maintenance

MBCR operates and maintains the IWWT system located at the CRMF. This Grade 3 industrial plant operates around the clock, 365 days a year. The facility treats the industrial wastewater generated at the maintenance facility, most of which comes from the train wash bays, prior to discharge to the Massachusetts Water Resources Authority (MWRA).

There have been no IWWT permit violations since MBCR took over the operations in 2003.

H&S Environmental, a state-certified small Disadvantaged Business Enterprise (DBE), has been operating this facility since start-up in 1998 and will continue to operate and maintain it going forward. The sampling and reporting activities associated with the MWRA discharge permit for the facility will continue to be recorded and tracked using the EMS. There have been no permit violations since MBCR took over the operations in 2003.

The Widett Circle train wash is now a closed loop system with no discharge to the MWRA. MBCR will ensure that the system continues to operate within required specifications. The ultra-filtration

system, spray nozzles, mechanical filters and strainers will be cleaned as required to maintain reliable operations. The main evaporator, central gutter system and eight foot deep floor water collection pits will be cleaned and the sludge removed and disposed of appropriately.

Environmental Infrastructure Systems O&M

Several components make up the environmental infrastructure systems that require operation and maintenance activities, including Catch Basins, Oil Water Separators (OWS), Stormwater Defenders, Subsurface Disposal Systems, and Tank Systems. MBCR and its subcontractors will continue to inspect and maintain these systems in a manner that extends our 100% compliance track record into the next contract term.

Catch Basins

There are over 700 catch basins within the service property. Our team will continue to inspect and clean all catch basins annually in accordance with a schedule that begins in the spring and runs through the fall. Additional inspections are performed on catch basins in areas that require a Stormwater Pollution Prevention Plan (SWPPP). In addition to required activities, MBCR and its subcontractors perform visual inspections of catch basins during Oil/Water Separator (OWS) inspections in an effort to avert potential drainage problems.

Oil/Water Separator Systems (OWS)

The 18 active OWS within the service property will continue to be inspected monthly, skimmed quarterly, and cleaned annually. We will perform more frequent inspections and skimming of several separators than are required by the contract to ensure consistent compliance. We will also continue to check high risk separators during significant storms and will inspect and maintain the Prison Point drainage infrastructure and outfall at Millers River, performing monthly inspections of the cofferdam and boom system.

Subsurface Disposal Systems

Five subsurface disposal systems exist on the service contract property, two of which receive service on an annual basis. Several systems receive a more frequent maintenance schedule:

- The Wilmington Headquarters system: pumped on a monthly basis
- The CRMF system: receives monthly service due to high flow rates

Wind River Environmental will continue to perform these maintenance activities. The Fitchburg Layover septic tank was replaced by a sewer injection pump system. The East Junction Layover was closed in 2006, resulting in closure of its subsurface disposal system.

Tank Systems

Currently there are 32 Above Ground Storage Tanks (ASTs) and five Underground Storage Tanks (USTs) on the service property. All tanks receive monthly inspections, and the locomotive fueling tanks at CRMF and Widett S&I receive annual use permit inspections. In addition, the tanks equipped with level/leak detection systems at CRMF, Widett, Readville T&E and the T-Pad will continue to receive monthly inspections.

Track Pan and Pad Maintenance

AAI will continue to inspect and maintain the drip pans and track matting at 12 locations. They will be responsible for removing sand and debris from pans and drains, ensuring that storm water can enter the OWS from the pans. In addition to the required locations, MBCR has installed track matting at various locations where locomotives may sit for long periods of time without drip pans to ensure that any leaks or spills are contained. Although not explicitly required by the MBTA, these track pads are effective in absorbing oil and preserving a clean environment.

All material that can be disposed as a recyclable material will be done in a responsible manner, and all hazardous waste materials will be handled in accordance with all applicable laws and regulations. AAI purchases all of the track maintenance and emergency response supplies from F.S. Engineers, a certified DBE.

Wind Turbine Maintenance

MBCR will operate and maintain the 100 kW wind turbine in Kingston as well as the planned 750 kW wind turbine at the Bridgewater Remote Track location pursuant to the O&M Manual provided by the applicable manufacturer of the wind turbine. MBCR will work in concert with the wind turbine manufacturers to meet a goal of 95% operating performance.

Pest Control Services

A-1 Exterminators currently performs regular interior and exterior pest control services at 17 separate service properties, in addition to as-needed services at other locations. A-1 Exterminators, which has over fifty-five years of pest control experience, will continue to perform services including installing and monitoring interior and exterior rodent bait stations, insect control, and bird control and netting as necessary. MBCR has recently broken out a portion of this contract and awarded it to Dewey Pest Control, a DBE, to perform pest control services at three locations.

5.A.12 Maintenance of Environmental Permits, Certificates and Licenses

The EMS will continue to track and manage all compliance activities associated with environmental permits, certificates, licenses and inspection reports in order to maintain an impeccable compliance record. MBCR holds the following types of permits:

- Hazardous Waste Generator Registrations – 22
- Flammable Storage –18
- MWRA Sewer Connection – (CRMF) & Pretreatment - 1
- MWRA Discharge – Pretreatment – 1
- NPDES Individual – 2
- National Pollutant Discharge Elimination System (NPDES) Multi-Sector General – 8
- Air Emissions – CRMF - 1

As the permit holder (or joint permit holder), MBCR will continue to maintain compliance with the numerous permits through execution of specific compliance activities at a variety of locations at specified frequencies. The EMS has over 1,000 records for activities that are required by a specific permit, and indicates the facility, permit, activity, schedule and status.

Plans

Many of the various permits, facilities and operations require plans. Following is a list of environmental compliance plans that the MBCR team has prepared and/or updated:

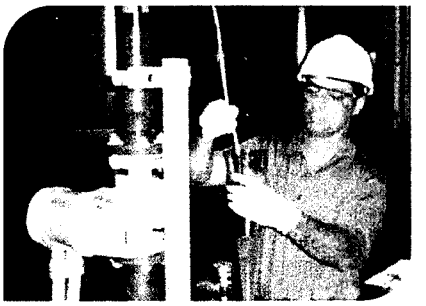
- Emergency Spill Response – 16
- Spill Control, Containment and Countermeasures (SPCC) – 6
- Storm Water Pollution Prevention Plan (SWPPP) – 13
- Storm Water Management Plans (Greenbush Line) – 7
- IWWT Operations and Maintenance Manual – 1
- Oil/Water Separator (OWS) Operation and Maintenance Manual – 18
- Slug Control – 1
- Wastewater Treatment (WWT) Plant Staffing – 1

As with permits, the EMS will continue to track all compliance activities associated with these plans. The EMS has over 3,800 records for activities that are required by a specific plan, each of which shows the facility, plan, activity, schedule and status. The inspection history is also in the EMS and used to schedule future inspections to maintain compliance with each Plan. The EMS can easily expand to include activities required by future plans to maintain the 100% compliance record.

Inspections

Inspections are an important part of any effective environmental compliance program. Requirements for inspections can be driven by permit or plan or by scope. The following inspections are part of the overall compliance program:

- SPCC
- SWPPP
- Tanks
- Flammable Storage Areas
- Emergency Response
- Spill Response
- General Compliance
- Hazardous Waste



Testing at the CRMF Industrial Waterwaste Treatment facility is one of many environmental compliance activities

Our team will continue to perform these inspections and track them in the EMS, including an electronic copy of each inspection form to demonstrate compliance. MBCR currently has 15 certified UST Tank Operators and performs monthly inspections at the required locations. Our Environmental Department will coordinate any corrective actions necessary to maintain compliance with the responsible department. The EMS will provide the information required to complete the Permit Management Program and Monthly Compliance Summary Report (ODLR 3.8-002 & 004).

Sampling and Reporting

Analytical sampling and reporting is a requirement for many permits and plans. A list of specific sampling and reporting conducted to support Commuter Rail operations is provided below.

- NPDES storm water compliance sampling and reporting: Prison Point & North Station
- SWPP Outfall visual sampling and reporting: 11 Sites
- MWRA Wastewater Treatment compliance sampling and reporting: Pretreatment
- Tank Stage Two Recovery reports: Readville
- Title V reporting – multiple locations

MBCR will continue to perform these sampling and reporting activities and track them, along with electronic copies of each inspection form, in the EMS. Samples will be collected by ARCADIS, their subcontractors EST or AAI, and analyzed by Alpha Analytical or AMRO Laboratories. The Environmental Department will continue to review the inspection and sample results to ensure all activities meet compliance requirements and coordinate any corrective actions as necessary.

Wetlands and Environmentally Sensitive Receptors

The Commuter Rail system passes through or near many wetlands and other environmentally sensitive receptors. New construction, culvert replacements or construction outside of the ROW in these areas often require regulatory approval and /or a permit.

MBCR's approach to wetland permitting is to start early. Doing so allows understanding of the regulatory framework and helps ensure that the goals of the project and regulatory constraints can be managed effectively. Since 2003, MBCR has proven reliable and effective in dealing with the local permit application process for projects that had the potential to impact wetlands, including over 30 culvert replacement and ditching projects and various ARRA projects including those on the Fitchburg and Haverhill Lines.

5.A.13 Proper Disposal of Any Waste or Hazardous Material

MBCR is committed to promoting the "reduce, reuse and recycle" methodology while safely managing the disposal of all waste and hazardous material. All material that can be disposed as a recyclable material will be done responsibly, and all hazardous waste materials will be disposed of in accordance with all applicable laws and regulations.

Clean Harbors is a Leader in The Waste Services Industry

MBCR has retained Clean Harbors to properly dispose and manage hazardous waste generated at all Commuter Rail facilities. Clean Harbors is one of the leaders in the waste services industry due to continual improvement of its Experience Modification Rating.

Waste oil and oil water mixtures are recycled at Clean Harbors' permitted oil recycling facilities located in Woburn, MA and South Portland, ME. The company uses phase separation and centrifugal technology to separate oily liquids, and the byproduct of the treatment process is used as fuel to fire cement kilns or as home heating oil. Used locomotive oil filters are recycled, filters are drained free of oil and scrapped. The scrap metal is sent to a metal recycler to melt the metal down for use in manufacture of other aluminum parts or new oil filters.

Clean Harbors owns and operates the end disposal sites where 99% of all waste managed goes for disposal.

5.A.14 All Other Services Related to Compliance with Applicable Environmental Laws and Regulations

MBCR currently employs six Class A/B and nine Class C UST certified tank operators. Our Manager of Environmental Compliance is a certified Class A/B operator. Nine employees are located at the Widett S&I and five at the Readville Facilities to perform monthly inspections and to maintain compliance with the regulatory requirements and to respond to emergency conditions.

MBCR will continue to perform maintenance of the Greenbush Wildlife Crossings as described in the Greenbush Wildlife Crossings Maintenance Plan. The crossings are regularly inspected to ensure the integrity of the fencing and structure. Bi-annual maintenance includes maintaining clear openings throughout the length of the crossing, ensuring that the crossings are free of trash and debris and performing any corrective actions as necessary.

MBCR has stayed abreast of locomotive idling regulations as set forth in 310 CMR 7.11(2) and the Consent Decree in Civil Action No. 10-11311 since its implementation in 2010. MBCR will continue to maintain compliance with these regulations by tracking all locomotive idling in Trapeze EAM, completing and reviewing daily idling summary reports, and by directing our subcontractor to perform unscheduled locomotive idling inspections at various facilities.

It is standard practice for MBCR's Environmental Department to remain current with all applicable environmental laws and regulations. Our staff monitors all services provided by MBCR for compliance, and we will continue to prepare and submit all ODRLs as described in the schedule on or before their required due dates. The EMS tool not only helps maintain compliance with these laws and regulations through its scheduling capability, but it also stores the compliance record. If new permits become necessary due to changes in regulations, operations or infrastructure; they can be added to the EMS to ensure that permit compliance is maintained at all times.

5.A.15 All Required Reporting

MBCR Engineering will continue to comply with all required reporting in specified timeframes, even as evolving rules and legislation drive new reporting demands. Through participation in Rail Safety Advisory Committee (RSAC) and AREMA committees, Engineering Department employees actively participate in the process of developing new rules and regulations and have the opportunity to anticipate their potential impacts on MBCR and the MBTA.

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Each Engineering Division will have the responsibility to upload reporting and documentation requirements and disseminate them throughout the organization. Department Managers are accountable for verifying document completion and that their divisions are in full compliance.

In addition to submitting all reports required by the United States Department of Transportation (US DOT), Federal Railroad Administration (FRA), Environmental Protection Agency (EPA), MDTE, American Public Transportation Association (APTA), Federal Transit Administration (FTA), and other oversight and regulatory bodies, MBCR will comply with all MBTA reporting requirements outlined in the ODRLs. Furthermore, we recognize the need for additional reporting to local communities and agencies, the MBTA Transit Police, State and Local authorities such as the Massachusetts Department of Environmental Protection (DEP) and Department of Public Utilities. MBCR is well versed in the full array of reporting commitments, including those specified in the Operating Agreement and additional requirements that ensure good practice.

Each department captures all reportable injuries and incidents in the Accident Incident Report Generator (AIRG) system and reports to the FRA on a monthly basis. MBCR also tracks the Engineering Department's close calls and the number of Safety Critical Tests and Observations (T&O) conducted and passed. MBCR created an Internal Control Plan that details our incident & reporting investigation procedures, as well as corrective actions and follow up. This plan also specifies the ways in which we will maintain full compliance with internal controls and reporting procedures.

5.A.16 Providing Information Management, Material Management, Performance Analysis and Reporting

Information Management

Well organized and transparent data, coupled with reporting capabilities, are key features to operating and maintaining an efficient enterprise. Trapeze EAM, a proven and flexible database management program, will be deployed to the fullest extent possible across the Engineering organization and will organize and centralize all data associated with assets.

Furthermore, the Transportation Department will continue to generate twice daily reports of trip data in the Train Resource Management II (TRMS-II) system. This information will include observations from Conductors and Locomotive Engineers about the rail infrastructure, stations, platforms and any other items requiring Engineering attention. TRMS-II also provides the number and duration of train delays and the underlying causes, categorized by Department for analysis and improvement.

With the availability of both TRMS data on Engineering-related train delays and Trapeze data, the Engineering Planning Team can see where speed restrictions are having the most dramatic impact, by correlating slow order performance (delay minutes) with repair and maintenance activities. The Team can then work to resolve these delays as quickly as possible by using Trapeze to expedite the necessary maintenance and repairs to lift the speed restrictions.

Weekly management calls will also provide an opportunity to discuss information about the condition of track, signals and communication, stations, bridges and other assets, and to track progress of continuous improvement initiatives. Managers with infrastructure expertise can analyze available performance data within the context of the infrastructure condition and technologies in existence at each location in order to pose credible solutions and service improvements.

Finally, our LMS tracking capabilities will give supervisors the ability to make sure we have the right person performing the right tasks, with appropriate qualifications to perform their functions.

Material Management

MBCR has rigorous material management standards to ensure that materials used for Commuter Rail maintenance, repair and replacement conform to MBTA and industry standards. Our underlying

philosophy for material management is to utilize cost effective and reliable components to support a state of good condition, extended asset lifespans, and consistent OTP.

MBCR Engineering and Procurement staff verify that materials meet OEM specifications or other Commuter Rail standards through selected site surveillance and detailed documentation such as Mill Certifications and other industry standard testing certifications. During the existing contract term, we have worked exclusively with suppliers that meet or exceed published OEM specifications.

Trapeze EAM for Material Management

The data generated from the ongoing material procurement and inspection process will be further organized through full implementation of Trapeze EAM system. All materials accepted by MBCR into the inventory control system will be given a number and a corresponding record in Trapeze. The certification, documentation and warranty information accompanying accepted materials will be attached to the Trapeze record and will follow the material and or asset whether it be on the shelf in the warehouse or deployed in the field until such time as it is removed from the service property. In the event of any issue involving material requiring further investigation, Trapeze records can be sorted by numerous customizable queries to identify materials, installation records and warranty information to aid in any investigation and process improvement initiatives.

MBCR will also utilize existing functionality within Trapeze EAM to track material from the moment it is received, including tracking warranties. If a piece of material under warranty is replaced or repaired, the system will issue alerts to designated managers. We will also use Trapeze to set minimum and maximum quantities for each item, and to alert our materials staff when levels are approaching the minimums. Items that have little or no activity within a period of six months will be reviewed and the min/max level adjusted accordingly.

The revised Material Management process, which capitalizes on Trapeze's data management strengths, will be organized in the Materials Management plans that will be delivered to the MBTA within 60 days after NTP.

Prototyping and Testing New Materials

MBCR will work with the MBTA to identify, install, test and evaluate new materials to meet or exceed the rigorous standards of the Commuter Railroad. The asset inspection and maintenance tracking process within Trapeze EAM is particularly well suited for prototype or alternative system/equipment evaluations and new material testing. As part of the prototyping or material testing process, all capital and maintenance costs as well as inspection reports are tracked against the prototype asset. Inspection reports can also include additional attributes such as photographs, test reports or narratives. Having one electronic repository of information available for easy access across the enterprise will allow for thorough evaluation of the new material by MBCR and MBTA personnel across the organization.

Performance Analysis and Reporting

The report generation and visualization capabilities of Trapeze EAM will assist us in understanding the performance and failure history of particular assets and taking effective corrective measures. Deeper and more accurate analysis can be performed to further hone the Engineering Department's actions to prevent track, signal and structural defects before they affect service.

Key Performance Indicators (KPIs)

MBCR has identified organization-wide KPIs that support our vision of being the industry leader in delivering safe, reliable and innovative rail service. Our KPIs are aligned with the MBTA's performance standards, and our KPI dashboard will provide a snapshot to measure how our organization is doing in meeting key goals, at any given time. This will also enhance transparency within MBCR and the MBTA as the KPI dashboard will track performance on a daily, weekly, monthly, quarterly and annual basis, including trending indicators to focus attention as needed. MBCR's organization-wide KPIs and KPI dashboard are detailed in Management Section 8.

Within Engineering, we will track supporting KPIs, such as reduction in signal-related train delays or Employee injuries, that will highlight accomplishments and frame performance improvement to support MBCR's overall objectives.

The following chart shows how Engineering KPIs are aligned with MBCR/MBTA performance categories. For each of our overarching KPIs (left side column), Engineering manages against a subset of supporting KPIs that directly influences MBCR's performance.

Engineering Department Key Performance Indicators

	Indicator	Measure (Unit) – Annual	2012 Baseline	2016 Target	Accountability
	Employee Injuries (Reportable)	Accident Frequency Ratio (AFR)*	3.91	2.5	Engineering Department
	Employee Injuries (All)	Injury Frequency Ratio (IFR)**	5.21	3.5	Engineering Department
Service Delivery	OTP	# late trains due to engineering-related causes	228	149	Engineering Department
Service Delivery	Signal Related Delays	Train delay minutes (monthly average)	1,395	1,136	Chief Engineer and Signal
Service Delivery	Speed Restrictions	Train delay minutes (monthly average)	741	604	Track
Service Delivery	Draw Bridge Failure	# of Failures (monthly average)	13	10	Structures
Customer Experience	Station Maintenance	Compliance with Station Cleaning Schedule	NA	100%	Structures
Customer Experience		Number of Customer Complaints (annual)	261	171	
Customer Experience	Snow and Ice Removal	# of Customer Complaints (annual)	63	41	Engineering Department
Customer Experience	Customer Communication Systems Reliability	# of PTIS, WI-FI, Electronic Station Sign Failures (annual)	201	164	Communications
Infrastructure Improvements	Track Related Commitments	% of Annual Plan requirements complete	NA	100%	Track
Infrastructure Improvements	Signal and Communications Related Commitments	% of Annual Plan requirements complete	NA	100%	C&S
Infrastructure Improvements	Bridge and Building Related Commitments	% of Annual Plan requirements complete	NA	100%	Structures
Infrastructure Improvements	Facilities Related Commitments	% of Annual Plan requirements complete	NA	100%	Facilities

**AFRs are determined by multiplying the number of reportable injuries by 200,000 and dividing that number by the total number of hours worked.*
***IFRs are determined by multiplying the number of reportable and non-reportable injuries by 200,000 and dividing that number by the total number of hours worked.*

5.B Best Practices Support

MBCR's innovation concepts have been developed using the actual experience of operating and maintaining the MBTA Commuter Rail Service over the past ten years. Our extensive knowledge of the infrastructure, equipment, and workforce give us the ability to propose credible innovations that are implementable with a high probability of success. Our extensive knowledge of this complex system enables us to know which work processes function well and which need to be redesigned. Most importantly, our experience informs us of the feasibility of making significant work changes, and provides practical knowledge of what improvements can be implemented immediately, versus those that can best be accomplished over time.

Initiative	Section	Category	Validating Information
Zone Management Plan	5.A.1 and Appendix 4	Innovative, Beneficial to MBTA Customers	Managers and personnel organized by geographical zones results in strong accountability for each zone's individual performance, measured by line-specific KPIs.
RTC Model and Simulation	5.A.1 and Appendix 3	Innovative, Best Practice, Beneficial to MBTA Customers, Cost Efficient	MBCR has developed an RTC model for the entire MBTA Commuter Rail system to simulate the effects of proposed infrastructure improvements and prioritize them according to a cost/benefit analysis. It also simulates the effects of a proposed track or bridge outage to plan for and mitigate delays.
Use of field computing tablets and handheld devices for real-time submission of inspection and maintenance data	5.A.1	Innovative, Best Practice, Cost Efficient	Use of GPS-enabled handheld devices capture asset data and submit it electronically to a central database. These devices will allow capture of time-stamped pictures and visual documentation before and after a repair, as well as immediate upload of inspection data.
Engineering Planning Team	5.A.1	Innovative; Beneficial to MBTA customers	The Engineering Planning Team will create workforce efficiency and reduce track outages by synchronizing multiple requests from engineering forces for work projects on the same location. This team also coordinates scheduling of machines, work crews and materials to ensure that each track outage is productive.
Advanced Signal Training Facility	5.A.2	Best Practice	Well-trained signal designers and maintainers are crucial to keeping MBCR at the forefront of signal and train control technology. Our new facility includes advanced equipment simulators for hands on training and practice.
Gate Keeper technology at grade crossings to reduce broken crossing gates	5.A.2	Innovative, Beneficial to MBTA Customers	These devices cause struck gates to assume their proper position after being hit by vehicles to maintain the design integrity of the gates and minimize train delays. This also improves safety of passengers and public in the vicinity of crossings.

Initiative	Section	Category	Validating Information
Bar coding system for Inventory Management	5.A.9	Innovative, Best Practice	Implementation of a bar coding system for inventory issuance and receipt of materials will link with Trapeze EAM and provide significant efficiencies for stores and engineering staff. Bar coding will ensure accurate, real-time inventory reporting that saves time and prevents errors.
Environmental Management System (EMS)	5.A.11	Best Practice	Efficiently tracks environmental permits, plans, inspections and reports. Makes it easier for MBCR to meet all of its environmental compliance obligations and provides transparency for the MBTA.
Sustainability Plan	5.A.11	Innovative, Best Practice, Beneficial to MBTA Customers	Establishing an organization-wide commitment to integrating sustainable practices and measuring against specific goals to improve in the areas of energy, water, waste, material use and land management.
Involvement with AREMA and AAR committees	5.A.15	Best Practice	Our involvement ensures that we are aware of and at the forefront of rail engineering best practices, regulations and innovations for rail infrastructure, inspection, maintenance and repair.

Summary

MBCR is positioned to provide continuity of daily Engineering services and ongoing capital programs, with a commitment to providing the safest and fastest possible Commuter Rail network throughout the next Contract term. This proposal outlines many past, ongoing and future initiatives, including technology usage, training, quality management practices and organizational oversight to ensure that we are proactively raising the standards of the MBTA's Commuter Rail infrastructure in everything we do. With years of practice and acquired insight, MBCR Engineering leaders understand the system; they instinctively know what it takes to keep it running smoothly under everyday circumstances and during emergencies.

The previous accomplishments referenced throughout this section are a testament to breadth and depth of MBCR's understanding and deep expertise gained over years of working with the unique assets situated throughout the MBTA Commuter Rail environment. This system has many non-standard aspects, including elements of the communications systems, signal design and technology, moveable bridges (each of which are different), major river crossings, interfaces with other rail operators, and even the individual maintenance facilities and layovers. MBCR has developed expertise with all of these assets and their quirks, including how to maintain them, when to replace or repair them, and how to organize resources and manpower for each specific work project. We will leverage this expertise across all inspection, maintenance and repair activities and build on it with our strategies and plans for the next contract. This includes upgrading Trapeze EAM, training our workforce to fully utilize it, and ensuring its use through Management and quality assurance. Together this will enable MBCR to deliver the MBTA's vision of a modern, efficient, and resilient Commuter Rail system.

Section 6 -
Transportation
Services Plan

Section 6

Transportation Services Plan Evaluation Factor Information

MBCR

Section 6 – Transportation Services Plan Evaluation Factor Information

Overview

1. MBTA Objectives

A. Maximize Commuter Rail on-time performance

B. Develop and implement train cycling plans to maximize vehicle availability and consist compliance

C. Protect customer, public and employee safety and hazard reduction

D. Ensure collection of all fare revenues

E. Provide adequate train staffing to ensure passenger comfort and service amenities

MBCR's Transportation Services Plan (TSP) outlines our vision of a customer-centric transportation system in which we challenge ourselves to continually improve on every aspect of the Commuter Rail experience. MBCR proactively introduces changes to operations that make every ride safe, on time and enjoyable. We are confident that as we expand our service, improve the fleet and infrastructure, and continually refine our communications, more people will choose Commuter Rail as their transportation mode of choice.

MBCR will continue to recruit and train a highly skilled team of managers and front line employees to provide exceptional service and reliability for our customers and the MBTA. Our TSP is aligned with the MBTA's primary Transportation goals and outlines how the MBCR team, our management practices, and operational standards are structured to meet and exceed each and every objective.

2. MBCR Key Achievements

During the current contract term, MBCR has cultivated a Transportation operation that emphasizes safe, reliable service that consistently meets customer needs. As a result:

We are Safer

MBCR has partnered with the MBTA to operate the safest possible Commuter Rail system. Reportable passenger injuries have trended downward almost 80% in the last five years. Similarly, transportation employee injuries have decreased 50% in the same time period. To date in 2013, MBCR is on track to experience its best safety statistics since initiation of the contract term. These trends are the result of consistent compliance with our Safety and Security plans and procedures throughout the organization.

Trains are More Punctual

MBCR has achieved its contractual OTP goal eight out of ten years as the result of many factors, including improved vehicle performance, sophisticated operations analysis, emphasis on training, and introduction of new technology. Performance to date in 2013 is 96.3% on-time, compared with 95.8% for 2012. To further strengthen this positive trend, MBCR has implemented a Zone Plan to align dedicated Transportation, Engineering and Mechanical resources across all lines of operation. This plan allows managers in the field to provide enhanced employee oversight and accountability, infrastructure monitoring and quicker and more focused response to incidents, while strengthening community relationships to support safer, more punctual train operations.

We Provide Expanded Service

Working with the MBTA, MBCR Transportation has developed operational planning scenarios, workforce mobilization and scheduling to implement extended service to TF Green Airport and Wickford Junction, new service on the Greenbush Line, shuttle service to Anderson Station in Woburn, and express service on the Worcester/ Framingham Line. In May 2013, MBCR partnered with MassDOT, the MBTA and Cape Cod Regional Transit Authority (CCRTA) to successfully launch the CapeFLYER train service to Cape Cod. On the Fairmount Line, MBCR and the MBTA completed major track, bridge, and signal system upgrades and added three new stations (with a fourth in design) to reintroduce hourly service.

Our Staff is Thoroughly Trained and Certified

MBCR developed and delivers in-house training for certified Locomotive Engineers and Conductors. We have recruited and trained a first class team of Transportation Managers, Train Crews and Dispatchers to meet the needs of a growing service while maintaining our highly skilled workforce. Over the past decade, many seasoned veterans have retired, resulting in numerous vacancies equating to approximately half of our Locomotive Engineers. Through effective succession planning, we have hired and successfully trained the next generation of train crews to meet the ever growing demands of the service. Please see Supplemental Appendix 7 for MBCR's Training Plan.

We Have Improved Quality and Efficiency

Our Transportation Department has introduced targeted technology initiatives to streamline processes, improve customer information and deliver more cost effective service.

- ORTEC Harmony software automates crew resource management by efficiently tracking and assigning resources, while taking into account work rules and approved absences.

- Developed in partnership with the MBTA, the Train Resource Management System (TRMS-II) provides vital service monitoring of daily train operations through a toolbox of MBCR-customized reports.
- Electronic tracking of Engineer and Conductor certification programs provides efficiency and assurance that staff completes all necessary training and requirements at required frequencies. This also ensures regulatory required reports are readily available for auditors.
- Rail Traffic Controller (RTC) Modeling simulates the MBTA's Commuter Rail operations, including train movements and infrastructure, to show the impact of operating decisions and opportunities for continued performance improvement.
- Our Conductor training includes particular emphasis on revenue collection and verification procedures to protect MBTA revenue. MBCR has increased the revenue collected on-board and in the three ticket offices by 20% from 2004 until 2012. Our most recent customer survey indicates that 97.9% of passengers had their ticket issued or inspected on-board by a crew member.
- Conductor training also includes rigorous instruction and practice in customer interactions and service information, as well as ongoing coaching, to foster professional and personable conduct.

We've Brought Innovation and Partnership

MBCR has partnered with the MBTA to:

- Improve the quality and timeliness of customer information delivered through LED signage, station announcements, social media, and T Alerts.
- Contribute valuable input in the development of the MBTA's mTicket project. We trained all on-board crews and ticket office employees in a tight timeframe to meet the highly successful public launch.
- Design, develop and invest in our new "Conductor Companion" application. This app delivers real time service information directly from MBTA beta feeds and the MBCR control centers to the Conductors' iPhones, and puts that information at our Conductors' fingertips. MBCR worked with the FRA to achieve approval to provide electronic rule books and bulletins within the app.

MBCR has developed a fully transparent and cooperative partnership with the MBTA across all facets of the operation. This includes development of new train schedules, MBTA participation in our daily operations calls, and valuable support for key innovations.

3. MBCR Key Future Commitments

MBCR will adhere to all of the MBTA Transportation Services requirements outlined in Schedule 3.1 of the MBTA's Request for Proposals. Our services, plans and initiatives, including those specified in ODRL 3.1-001 through 3.1-025, will describe specific hiring, staffing and operational plans to meet these requirements, as well as comprehensive reporting to demonstrate our compliance. In addition to our contractual obligations, MBCR proposes practical and innovative approaches to improving Transportation operations, based on our thorough knowledge of this complex system, its challenges, and the most effective approaches to getting desired results.

Please Note: *This "T light bulb" icon will be used throughout this section, and the proposal, to identify our proposed innovations for the next contract period.*

As described above, MBCR has been successful in achieving critical improvement targets in safety, punctuality and other aspects of service. Going forward, we will leverage new technologies, our expertise and partnerships to exceed all MBTA performance targets.

Safety

MBCR brings ten years of proven experience delivering an integrated approach to safety in the MBTA Commuter Rail environment. The Transportation Department will continue to dovetail its safety and security plans with those of the MBTA, operating the system in accordance with all FRA regulations,

procedures, qualifications and certifications. We will ensure strict adherence to MBCR's Operator Safety Compliance Plan (OSCP) and the MBTA's System Safety Program Plan (SSPP). In addition, we will:

- Deliver training programs for all personnel on MBCR safety and security standards and develop awareness and reporting protocols for safety hazards and suspicious activity.
- Strictly enforce Locomotive Engineer, Conductor and Assistant Conductor operating standards, fatigue and distraction management guidelines.
- Expand our partnerships with local first responders to plan and prepare for emergencies and to protect passengers, employees and the public; our Zone Plan structure (please see Supplemental Appendix 4 for full description of the Zone Plan) augments these relationships.
- Continue our partnership with Veolia and the FRA by participating in cutting-edge research to recognize signs of workplace distractions for Locomotive Engineers and develop prevention techniques.
- Use operational modeling to analyze and revise crew shifts for better coverage and adequate rest to improve work-life balance and safety performance.

On Time Performance

Building on our 2013 year to date performance of 96.3% OTP, MBCR will utilize train delay data and trends to focus our improvement plans and maintain OTP in the 97% range throughout the contract term. Some of the initiatives and undertakings that will support this target include:

- Tri-weekly review of OTP performance focusing on patterns related to Engineering, Mechanical and Transportation incidents and delays.
- Operational modeling to simulate proposed changes and prioritize those that deliver the most significant OTP benefit.
- Regular analysis and revision of crew shifts and spare board availability, ensuring sufficient staffing levels to optimize performance.
- Plans to complete thorough employee training on operation and troubleshooting techniques for the new Rotem coaches and MPI locomotives to facilitate a smooth integration of this equipment into the fleet, allowing for retirement of older, less reliable equipment.
- Introduction of new rail adhesion technologies, Engineer operation and sand application techniques to reduce "Slippery Rail" delays.

Revenue

MBCR is committed to growing fare revenue, increasing the proportion of electronic transactions and lowering handling cost and fraud opportunities by significantly reducing on-board cash transactions.

MBCR emphasizes revenue protection in Conductor training.

- MBCR proposes to introduce a powerful new ticketing platform in partnership with Masabi and in full agreement with the MBTA; we will build a multi-phased ticketing initiative utilizing Masabi's JustRide program. Phase one of this initiative will allow for electronic on-board ticketing and the acceptance of credit and debit card transactions; phase two will support remote web-based sales and functionality to print tickets at home. In addition to maximizing revenue collection, this initiative will limit fraud potential and increase ticket purchase options and convenience for our customers.

- Continue to promote the mTicket app, to reduce cash transactions on-board the trains.
- Strategically use the MBTA's mobile ticketing van (Charlie Van) to sell tickets at stations with high ridership and during special events.
- Improve collection and eliminate fare evasion through on-board monitoring of Conductor fare collection and verification activities using our new Mystery Traveler audits (detailed in Customer Service Section 7.A.5).
- Advanced Revenue Collection Team will provide additional Buy Before you Board activities and support crews on high volume trains and during special events.

Quality Process Improvements

MBCR will employ new process measurement and planning tools, management training and analysis of existing practices to identify opportunities for improvement in performance and customer service. Examples include:

- Selected managers are participating in training to become certified in "Manager of Quality/Organizational Excellence" credentials.
- MBCR will purchase two locomotive simulators to train both new students and experienced engineers in safe train handling and fuel conservation skills.
- Developing and implementing train cycling plans based on MBCR's detailed equipment utilization reports. These plans are the basis for analyzing opportunities to streamline maintenance scheduling, increase availability of equipment for scheduled runs and potential service expansion, improve consist compliance, and decrease non-revenue moves.
- In partnership with the MBTA, we propose to implement Automated Passenger Counting devices on designated "counting" trains for statistically valid passenger counts on peak and non-peak trains. These devices will provide more accurate and transparent ridership data, allowing more precise train staffing and consist plans ensuring adequate passenger capacity.
- Complete implementation of the Conductor Companion mobile app to improve the level of real-time service information for crews and customers on-board trains.
- Going forward, a dedicated Customer Service Representative will coordinate all communications sent from the dispatch centers to station LED signage, T Alerts and social media to ensure accuracy, consistency and continuity of messages.

Diesel Multiple Units (DMUs)

MBCR Transportation is prepared to provide all operational planning, equipment and crew scheduling to serve Metro Boston Commuter Rail lines with proposed DMU service. Based on our detailed feasibility assessments, MBCR proposes initial DMU implementation on the Fitchburg and Fairmount Lines, where they can provide the greatest impact and enhancement opportunities for riders and communities along those lines. Please see Mechanical Section 4.A.10 for more details.

This initiative would provide more frequent service at existing and new stops close to Boston, while enabling more express train opportunities from more distant points.

Improvement Proposal

Driver Assist Technology

MBCR proposes the introduction of Driver Assist software to the MBTA fleet to provide Locomotive Engineers with real time fuel saving recommendations on accelerating, braking and "coasting." This technology can significantly reduce MBTA costs through reduction in locomotive fuel consumption (expected savings of over $4 million annually), while reducing CO2 emissions by approximately 8%.

- Advises Engineers on fuel saving train handling operations without compromising scheduled performance
- Includes passive technology installed within the cab and specific training provided to the Locomotive Engineer

Please see Supplemental Appendix 4 for more information on our recommended approach to implementing Driver Assist technology.

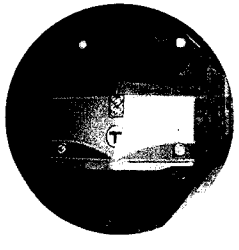
Day-In-The-Life *of* MBCR Transportation

3:00 AM

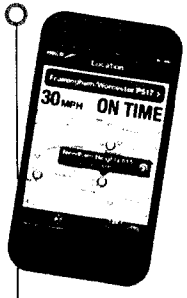
3:00 am
First employees report for duty and begin first equipment movements.

3:00 - 5:00 am
Conductors review bulletin orders and division notices and perform job and safety briefings.

4:15 am
First revenue train leaves South Station.



5:30 am
South Side train dispatcher consults with Mechanical Help Desk regarding equipment availability at all South Side facilities; Conductors receive a T-Alert about the status of AM service through the Conductor Companion.



7:00 am
Locomotive Engineer completes a brake test and prepares to depart South Station.

9:00 am
Transportation managers attend Daily Operations Call with multiple departments to review morning peak.

11:00 am
North Side Dispatch office prepares a T-Alert message for Fitchburg Line LED signs to notify customers about upcoming track work.

2:00 pm
Conductor engages with a customer as he collects revenue on-board the train.

12:00 pm
Road Foreman takes a small group of Locomotive Engineers on a new MPI locomotive for hands-on testing of all equipment features.

NOON

3:00 pm
Chief of Transportation attends second Daily Operations Call with multiple departments to prepare for afternoon peak.

7:30 pm
Road Foreman conducts rules compliance test with radar.

8:00 pm
Crew Manager submits a report of the following day's Train & Engine crew assignments.

9:00 pm
North/South dispatch centers coordinate the day's system-wide OTP and a summary of the day's service is sent to MBTA and MBCR leadership via the All Page system.

2:20 AM

2:20 am
Last train arrives back at CRMF.

12:00 am
Yard crews work with Mechanical Foreman to make up train sets for the AM rush hour.

10:00 pm
Before going off duty, Conductor submits reports, including detail of an HVAC issue for overnight maintenance attention.

MBCR

Elements of the Transportation Services Plan

6.A Transportation Services Plan

MBCR knows that safety and punctuality, while critical, are not the only factors that contribute to a positive passenger experience. Customer satisfaction is influenced by the professionalism of a Conductor, a quick and accurate experience at the ticket window, or the timeliness of a message on a station's LED board. Our TSP outlines our commitment to maintaining and building upon high levels of safety, service quality, and customer satisfaction, through the provision of highly trained staff, efficient use of equipment, stringent quality control, and the implementation of new management practices and systems. MBCR maintains its focus on the implementation of the MBTA's long-range vision for superior operations and customer service. In addition, MBCR is committed to partnering with the MBTA (including financial partnership) on plans for potential expansion of operations such as South Coast Rail (New Bedford), Wachusett, Nashua, New Hampshire, and further expansions into Rhode Island.

6.A.1 Staffing, Management and Operation

MBCR's transportation staff, including Locomotive Engineers, Conductors, Assistant Conductors (ACs), and Train Dispatchers, are on the front lines of executing day-to-day service and, with the support of an experienced Transportation Management Team, perform a vital role in enabling MBCR to continually improve OTP, safety, revenue collection, and customer service.

During our tenure, we have steadily refined our approach to staffing, management and operation of the system, even as service expanded on five lines. MBCR has the proven experience to continue enhancing feasible Train Staffing Plans that include a full set of "crew runs" and supervisor staffing levels required to provide safe, quality Commuter Rail service. We will use a statistically reliable passenger counting system and operational run book modeling to determine optimal onboard staffing levels to meet the MBTA's required ratio of at least one crew member per 300 customers, and to ensure all doors are open as required for passenger loading during AM and PM Peak hours. This level of service coverage will ensure full fare collection, safe and efficient passenger loading, and thorough customer engagement.

Staffing of MBTA Commuter Rail Services

MBCR is committed to staffing the MBTA's trains with qualified personnel in sufficient numbers to ensure the safe, reliable performance of Transportation Services. The following personnel perform critical duties to move trains efficiently and comfortably.

Locomotive Engineers exhibit safe, proper train handling techniques.

Locomotive Engineer Duties

The primary responsibility of Locomotive Engineers is the safe operation of locomotives and control cars, including efficient and comfortable train handling, while adhering to MBTA schedules. Engineers are also responsible for monitoring safety-critical features, including wayside signals, cab signals, ACSES, and train control systems. In addition to required recertification every three years, MBCR training focuses on improving Engineers' ability to contribute to on time performance by troubleshooting mechanical issues on active trains and maximizing efficiency and safety through proper acceleration and braking. We will continue to leverage the experience of our partners Veolia and Bombardier with MPI's locomotives to inform our Engineer training programs on operations and troubleshooting the new equipment.

Conductor/Assistant Conductor (AC) Duties

The primary responsibility of both the Conductor and the AC is the safe operation of the train. Equally important is their responsibility to serve as the face and voice of the Commuter Rail and to make the customer experience enjoyable. Upon reporting to work, Conductors review bulletin orders and division notices, conduct job and safety briefings, discussing the safety rule of the day. They prepare and inspect trains for departure, assist passengers entering and exiting trains, collect revenue and verify tickets, and make clear, informed customer announcements. MBCR provides specific crew training, one-to-one coaching and, if necessary, remedial attention to foster service excellence in all customer interactions. Our Conductors learn effective and sensitive approaches to assisting customers with disabilities and effectively resolving conflicts when necessary. Conductors and ACs are also trained in mechanical troubleshooting to assist the Engineer with en-route train issues and to perform "on-the-ground" operations such as manually operating power switches in the event of switch and signal failures and protecting grade crossings in the event of a malfunction. Conductors are trained in CPR and AEDs to quickly address on-board medical emergencies.

Customer Email: "I would like to commend the service of a conductor named B. He generally works the P 527 train from South Station to Worcester. He is precise and very professional. Helps older people off the train and announces every stop like the old fashioned conductors used to in the old days. He actually says "good evening" to each and every rider that disembarks. Amazing! He is always in full uniform and represents the railroad well. His attitude is wonderful! Just wanted you to know."

Train Dispatcher Duties

MBCR Dispatchers are responsible for using communications and train control systems to direct and facilitate the safe movement of trains along 225 miles of South Side track and 132 miles on the North side, including 135 passenger stations and 229 grade crossings within the system. Dispatch personnel are responsible for the movement of third party railroads over MBTA tracks, as well as providing protection for all on-track maintenance and construction activities. Whether serving in a day-to-day dispatching capacity or as incident commanders, MBCR dispatchers are trained to govern all movements according to current operating and safety procedures and regulations. Both dispatch centers comply with all MBTA notification and incident management requirements.

Chief Dispatcher Duties

The North and South Side Chief Dispatchers are responsible for the overall dispatching of the system. They monitor the skills, competencies and rule compliance of all train dispatchers under their purview. These managers ensure that all the lines within their jurisdiction work in harmony and that any changes to the operating plan are conveyed and coordinated between dispatcher territories and communicated to the public. Our Chief Dispatchers attend seminars on handling derailments, explosions and other transit-related situations to ensure they remain current with industry best practices and to maintain knowledge and awareness of specific safety and security protocols.

Staffing for Special Event Trains

MBCR continues to be innovative in its approach to staffing and operating special trains for sporting events, Haunted Happenings and other occasions that attract crowds and surges in ridership. MBCR has experience in handling all safety, communication and revenue collection aspects of these trains, and we will continue seamless operation in the future. We will provide a minimum of four staff members to meet any needs related to special or unusual events, while ensuring minimal impact on Commuter Rail service. Special event train customers present a marketing opportunity to promote the service; therefore, a key strategy of ours is to transform these occasional customers into regular riders. (Please see MBCR's Marketing & Ridership Building Plan in Supplemental Appendix 5).

Advance Revenue Collection Team

Consistent with the MBTA's requirements, the Advance Revenue Collection Teams will be responsible for supporting efforts to collect and verify all passenger fares. These teams will be trained in all aspects of revenue collection and fraud prevention including operations of a Retail Sales Terminal (RST) enabling them to visit high volume stations to offer ticket sales prior to boarding from the Charlie Van. These highly trained individuals will provide visibility on platforms and will carry out Buy Before you Board exercises throughout the system to encourage customers to purchase tickets prior to traveling. They will also serve as MBCR's Customer Action Team (CAT) during service disruptions to assist customers with changing travel plans, and provide information.

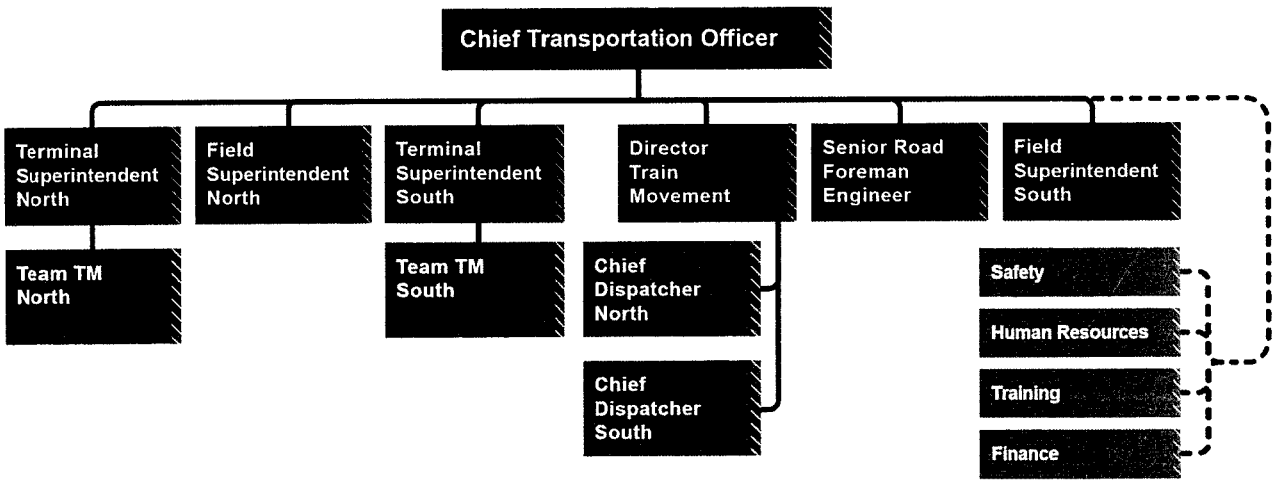
Football fans board a special MBCR train to the Patriots game

Management of Commuter Rail Services

MBCR's stewardship of the MBTA Commuter Rail service over the past decade has led to a deep understanding of the dynamic system and its assets. Our Transportation team has successfully managed daily Commuter Rail service, expansion of service, and special trains. Their extensive expertise and experience provides them the capabilities to successfully perform real-time contingency planning and rapid response to service disruptions, weather emergencies and other incidents. MBCR personnel have strong working relationships with Amtrak, CSX, Pan Am and Providence & Worcester (P&W) through years of side-by-side operation and coordination. These relationships, as well as a growing number of new affiliations including Mass Coastal Railroad, provide indispensable support and assistance during day-to-day and service recovery situations.

The following organization chart depicts our top level management structure for Transportation. All Transportation Managers (including Road Foremen) who report to North and South Terminal and Field Superintendents are organized geographically according to our Zone Plan described below.

Transportation Organizational Chart



Our Zone Management Plan Aligns Operations Geographically

To create the geographic alignment necessary to support each of our eight operating territories, MBCR has developed a system-wide Zone Plan to allocate dedicated resources from Transportation, Engineering and Mechanical, with support from Safety and Customer Service, on each zone. These

dedicated field teams, led by Transportation Managers, provide operational oversight and foster community relationships within each zone, ensuring closer management of facilities and crews, more reliable emergency preparedness and more effective prevention of, and response to, service disruptions. Rapid Responders include line managers from each department to resolve operating, equipment, track and signal issues and to initiate service recovery. Please see Supplemental Appendix 4 for more detail on MBCR's Zone Plan.

Our Experienced Team

Our Chief Transportation Officer (CTO) will continue to oversee the MBTA's Transportation Services and lead our Superintendents, Transportation Managers and Dispatch Chiefs, while serving as a liaison to other departments. Our CTO will continue to be accountable for the department's performance, including oversight of our Zone Plan; staffing and equipment utilization; data-driven decision making based on System Dynamics, ORTEC and RTC modeling; and providing strategic insight for exceptional operational performance.

Superintendents

Superintendents have budget and supervisory responsibility over the managers and employees within their scope of responsibility. They enforce and administer policies and procedures, investigate causes of accidents, incidents, delays, customer complaints and any factors that impact safety, performance, and the railroad's obligation to key stakeholders. They coordinate service recovery, lead root cause investigations of rail incidents, and implement company-wide measures to prevent recurrences. MBCR Superintendents possess significant experience and working knowledge to perform this dynamic role within the Commuter Rail environment.

Transportation Managers

Our Transportation Managers (TMs) supervise Train and Engine (T&E) crews and ensure the operating competency and performance of all operating personnel. TMs are fully qualified to the equivalent level of those employees they supervise and are responsible for managing operations in compliance with the operating plan, schedule, rules and regulations. In addition, 50% will be engine qualified and will have an additional focus on the Locomotive Engineers' competencies and practices. These engine qualified TMs will ensure that Locomotive Engineers are certified and qualified to operate by overseeing and accompanying them regularly to verify proper train handling skills, safety and operating rules compliance.

Together, the CTO, Superintendents and TMs will have responsibility for the management and hands-on oversight of the MBTA's Commuter Rail Service. Our TMs understand that the relationships they cultivate with employees are essential to effective crew performance. We will continue to manage staff performance through testing, evaluating, training, and monitoring. TMs ensure that passengers experience a safe, secure, clean, and comfortable rail environment, and that every fare is collected to protect Commuter Rail revenue. MBCR's Transportation Department will ensure the coordination and free flow of information between MBCR and the MBTA during daily service as well as any service delays or disruptions. Transportation Managers also attend MBCR's Meet the Manager events to communicate with customers and gain a thorough understanding of their experiences and concerns.

MBCR Crew that saved a life using an AED

Operation of MBTA Commuter Rail

Our team provides a fully compliant operation in accordance with all State and Federal regulations, procedures, inspections and certifications. Our Transportation Employees have saved lives using skills acquired through rigorous safety training, including the use of Automated External Defibrillators (AED) and CPR, while National Incident Management System (NIMS) training and

regular drills will continuously equip crews to recognize dangerous situations and threats to security. In 2009, MBCR and the MBTA became the first passenger rail system in the US to require AEDs aboard every train. In 2011, an MBCR crew saved the life of a man who had collapsed from a heart attack at South Station, using CPR and an available AED device.

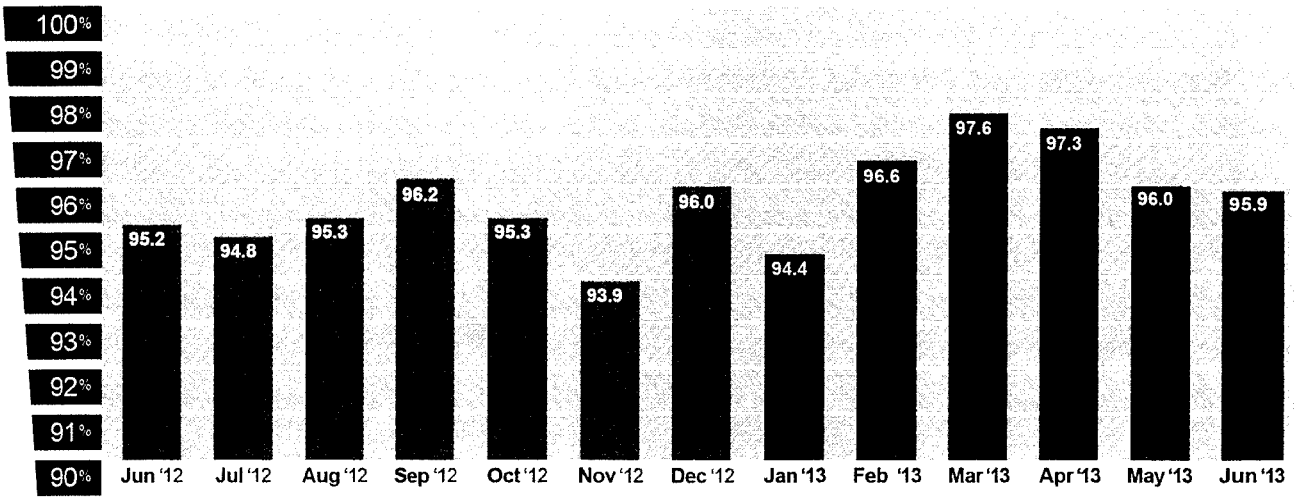
In 2011, an MBCR crew saved the life of a man who had collapsed from a heart attack at South Station, using CPR and an available AED device.

Our Transportation team is best equipped to operate the MBTA's Commuter Rail Service into the future, without risking the hard fought gains to safety, train performance, and customer service accomplished over the past decade. Our team will not miss a stride in continuing improvements and capabilities driven by our ongoing refinements to crew and equipment utilization, zone accountability, service monitoring and continuous improvement techniques to enhance performance and customer satisfaction.

Continuing Improvement in On-Time Performance (OTP)

According to passenger research, customers care most about on-time performance. The public timetable is a promise to depart and arrive according to the schedule. In the spirit of transparency, MBCR publishes its monthly actual and contractual OTP results by line for public inspection. Focused initiatives to address the biggest causes of train delays have resulted in a 20% reduction in train delay minutes from 2009 to 2012. With service monitoring and performance analysis driving our OTP initiatives, MBCR achieved a 95.8% OTP for 2012, exceeding the contractual goal of 95% and capping off the year with an impressive December OTP of 96%. Through a number of factors, including better preparation for weather events, improved teamwork among departments, more vigilant monitoring of problem areas by our Engineering Department, focused maintenance based on Mechanical Team knowledge of locomotive defect history, and Zone Plan development, we have continued to achieve high levels of OTP with 96.3% for the first six months of 2013.

2012-2013 Contractual On-Time Performance



The MBCR team's high level of experiential knowledge with the system's unique operating issues provides a credible advantage in optimizing the existing assets and infrastructure to maximize OTP. With our additional use of modeling and analysis of infrastructure, equipment, and staffing patterns, MBCR will be even better equipped to make decisions and take actions that maximize efficiencies and performance. MBCR is already pursuing the following Transportation strategies and initiatives to further improve OTP and reduce transit times throughout the next contract:

- Improved passenger counting accuracy to identify loading and dwell time issues
- Assurance that trains are fully staffed so as not to impede on time departures
- Greater standardization of train consists that allow for interchangeability of train sets, leading to faster service recovery
- Use of MBCR-generated spreadsheets to model ideal train consist assignments to achieve MBTA schedules, adequate passenger capacity and OTP
- Operational modeling to develop effective and productive crew assignments
- Operational buffers and fleet contingency plans to aid service recovery
- Increased speed of equipment turn times and maintenance shop cycles
- Increased network speed which provides additional capacity for service
- Comprehensive Slippery Rail program using new technologies and integrated practices (see Engineering Section 5.A.1)
- Continued refinement of MBTA-approved Snow and Severe Weather Plan
- Optimization of train consists and staffing with new Rotem coaches

Reliable Operation During Snow and Severe Weather Events

To mitigate the challenges of dependable and timely service during winter and/or severe weather, MBCR submits a detailed Snow Plan each year for MBTA approval. This Plan leverages past experience, lessons learned and brainstormed ideas to establish a reduced schedule of trains to prevent network congestion while protecting the movement of the commuting public during Snow Emergencies. The Snow Management Plan effectively utilizes all of MBCR's resources, including Managers, Supervisors, Manpower and Equipment and provides detailed guidelines for MBCR personnel to work in conjunction with MBTA Railroad Operations personnel to mitigate the impacts of weather events.

MBCR is prepared to combat all New England weather conditions

In the event of two or more inches of snow, designated Operations Managers go to every outlying facility, main terminal, key interlockings, and other vulnerable locations, ready to react to switch failures and any other incidents. MBCR mobilizes necessary forces and equipment to carry out prompt snow removal, salting/sanding, tree clearing, electrical repairs and any other necessary response. To prepare for anticipated snow events, MBCR "prepositions" crews and equipment, putting crews and dispatchers up in hotels as necessary and positioning snow cluster trains.

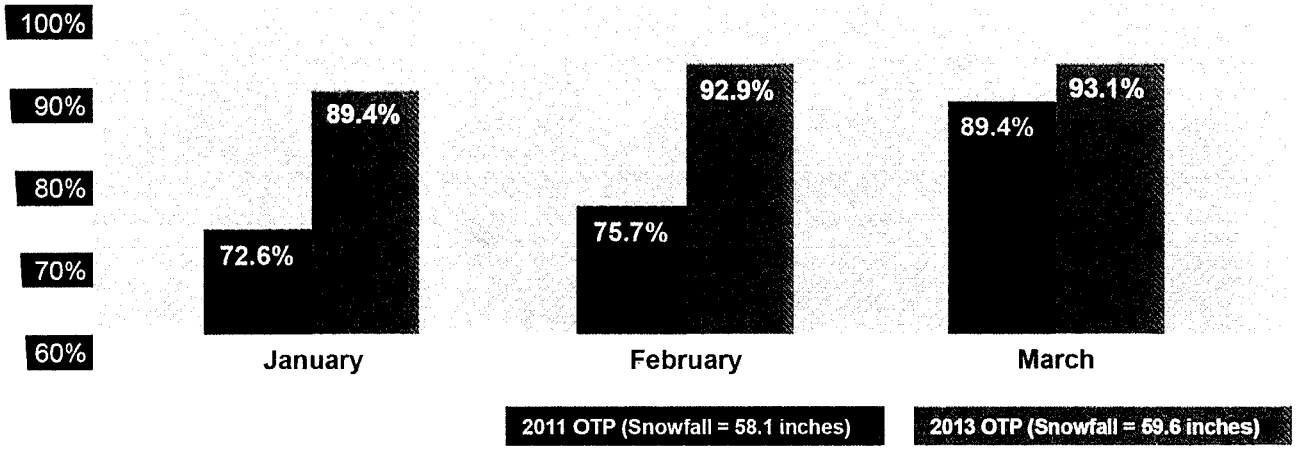
For severe storms, MBCR operates a Storm Control Center with open conference lines staffed by the Chiefs of Engineering, Transportation, Mechanical and Customer Service to expedite coordinated decision-making and enable departments to work at maximum efficiency for the duration of the storm. Pre-positioned managers and crew communicate via cell phones to issue instructions and receive reports on operating and equipment conditions from the field. Transportation personnel also inform the public of delays and serve as a liaison to and from the MBTA Operations Control Center.

During the severe winter of 2011, MBCR experienced operating issues that impacted service delivery, prompting us to review our performance, re-evaluate all aspects of our service delivery and refine our Snow Plan. In 2012, New England experienced a very mild winter with minimal snowfall, but in 2013, we were able to put the new plan and our new equipment to the test. The MBTA Commuter Rail service area received almost 60 inches of snow with

This past winter, the MBTA Commuter Rail service area received almost 60 inches of snow with no unplanned disruptions to Commuter Rail service.

no unplanned disruptions in service this winter. To further prove the efficacy of our revised Snow Plan and service delivery improvements, MBCR's raw (unadjusted) OTP during winter months has improved significantly. A comparison between the snowy winters of 2011 and 2013 (see chart below) shows a 16% improvement in unadjusted OTP performance as a result of refined Snow Plan procedures.

Unadjusted OTP Comparison: Winter Months 2011 vs. 2013



As further evidence of our improvement in managing the impact of snowstorms on service, customers have shared their positive feedback during and after major storms, commenting on the quality and punctuality of their rides. As one passenger tweeted during the February 2013 blizzard: ***#mbta commuter rail from the north shore is running like a charm!***

A significant aspect of MBCR's Snow Management focus has been the rapid transmission of real time information to the MBTA and to customers. No one likes standing on a platform (especially a platform in snow and sleet) with little information upon which to base decisions. MBCR has made strides in improving the accuracy and relevance of messages through all customer channels and will continue to keep passengers informed in all weather conditions.

The effectiveness of MBCR's response to major weather events is also illustrated in our coordinated efforts to mitigate the potentially disastrous effects of Hurricane Sandy, described below:

CHALLENGE: UNPREDICTABLE EVENTS OF HURRICANE SANDY (FALL 2012)

As the massive Nor'easter approached New England on Monday, October 29th 2012, the MBTA instructed MBCR to shut down all Commuter Rail service after 2 pm. As this information was broadcast to the public, MBCR needed to prepare quickly for an unexpected mid-day rush hour.

As Sandy made its way through the area, it brought down wires, trees and debris along the Northeast corridor, shutting down the railroad west of Mansfield and trapping six sets of Commuter Rail equipment at the Pawtucket layover facility. MBCR received this notification late Monday night.

Approach

MBCR quickly established a "war room" setting with an open conference line enabling department managers to make decisions in real time and implement a contingency plan as events unfolded.

Before and During the Storm

- Mobilization of extra buffer trains and crews to handle the unexpected rush hour
- Rapid response to fallen power lines, trees and debris to support safe and efficient train movement
- Positioning of Engineering forces throughout the railroad with chainsaws, generators, gas cans and additional tools needed to quickly respond to damage and blocked corridors; this included Signal Maintainers to secure crossing gate arms to prevent them from snapping in the wind
- Immediate communication from Locomotive Engineers to Engineering forces to notify them of specific conditions impeding train movement
- Effective direction and prioritization of train movement and re-routing to get all passengers home

After the Storm

- Leadership conference call at 11 p.m. to draft a plan to run the next morning's rush hour service out of Mansfield and maintain the majority of service on the Providence line
- Reassignment of train sets from Boston and Stoughton to Mansfield, to replace the six sets trapped at the Pawtucket facility and allow for Providence Line service to originate in Mansfield
- Mobilization of shuttle service between Stoughton and Canton Junction, using one train set to deliver Stoughton Line passengers to the Providence Line for the remainder of their trip
- Use of Rail Mail and T Alerts to communicate service changes to affected customers. MBCR also used radio and news media to notify customers that all service was suspended west of Mansfield
- MBCR Engineering continued with full scale cleanup to support the restoration of service

Results

- On the day of the storm, MBCR got all passengers home safely prior to closure.
- 70.5% of the system was running smoothly when service resumed the next day. The tracks were restored to normal service west of Mansfield at 9 a.m. and there were minimal cancellations. By Tuesday's PM peak, the entire system, including the Providence Line, was fully up and running.
- MBCR received significant positive feedback for effective communication of service impacts and changes.

6.A.2 Train Operations, Train Crew Management, Crew and Equipment Scheduling

MBCR Train Operations rely on highly skilled and qualified T&E crews to operate a compliant train consist over specific routes of the network at the times specified in the MBTA public schedules. We adhere to all applicable rules, regulations, operating timetables, special instructions and mandatory directives in effect for the pertinent territory. Our trains operate according to the TSP that designates the train schedule and routing, the crew staffing plan that determines the crew size and personnel assignments, the equipment plan that identifies the equipment for the specific train, and the standard operating plan that the dispatchers follow to route and prioritize train movements throughout the

Commuter Rail system. All of these activities are central to the Commuter Rail passenger experience and essential to getting people where they need to go in a safe, punctual and informed manner.

MBCR has made significant progress with personnel management to address attendance, vacations, staffing, and other crew management initiatives. The cooperative working relationship between Labor and MBCR is enabling us to achieve successful collective bargaining agreements, without sacrificing high OTP and safety performance. MBCR understands that proposed crew efficiencies that make sense on the basis of schedules and passenger counts alone need to be weighed against the realities of revenue protection or platform configurations on a line to determine the necessary level of AC staffing and backup resources to support each train.

Train Crew Management

MBCR will continue to manage our Train Crews' daily performance and effective utilization to deliver the required number of personnel for each train trip in the schedule. The Transportation Department's Crew Management team is located on the second floor of the Cobble Hill facility and consists of nine crew callers, two lead crew dispatchers, one Manager and one Assistant Manager. This function operates 24/7/365, with a minimum of two callers (one on the North, and one on the South Side Desks) at all times. Lead Crew Dispatchers work the first and third shifts, which are the most critical in preparation for peak service. Crew transportation is jointly managed by Crew Management and by the Terminal Transportation Managers. The Crew Management function tracks employee hours of service, rest periods, and vacancies to ensure compliance with Federal Regulations and MBTA train staffing requirements. MBCR is currently migrating crew management processes to ORTEC's Harmony Employee Web Portal and Bid Module, a self-service portal enabling employees to view their schedules, leave balances, bid on jobs, request time off, and complete other tasks electronically.

All job calling, crew picks, vacation requests, backup staffing, rest period and hours of service calculations will be fully automated to support a more efficient operation.

Our Operations Planning Department also utilizes the ORTEC Harmony workforce management software, with the input of Transportation Managers to effectively assign train crews. Our Train Staffing Plan includes a full set of crew runs that are developed to optimize crew productivity and work/life balance with cost efficient network operations, while remaining compliant with federal regulations and contractual staffing requirements. The Train Staffing Plan includes a permanent spare board to provide backup staffing resources to fill absences and provide coverage for staff training and vacations. MBCR Operations Planning works closely with Crew Management to ensure coordination and effective execution of the MBCR train crewing plan.

MBCR has revised its attendance policy including new automated management reports to identify attendance patterns and to strengthen full and timely enforcement of the policy. These reports go to department managers, labor relations and the General Manager and will support timely progressive discipline as needed to ensure customers consistently experience the best possible service.

Crew and Equipment Scheduling

Crew scheduling and rostering are two of the major tasks involved in managing our train crews. MBCR Operations Planning and Transportation Managers rely on operational modeling software to assist in decision-making for effective and efficient crew staffing and equipment scheduling plans that meet MBTA requirements and adhere to labor agreements. ORTEC Crew Duty Generator is a software module that simulates operating scenarios with an optimal number of regular assigned employees and relief personnel (spare board) to provide the required staffing coverage. Managers can also use the module to provide scenarios for modified shifts or reduction in overtime to achieve certain workforce management goals.

MBCR has been proactive in developing equipment scheduling scenarios that support service improvement and reliability while adhering to the MBTA's consist requirements. In 2010, the Transportation team redesigned operations to allow train consists to begin and end their days in the same location. This improved equipment availability ensured that trains were positioned for the following morning's service. In addition to increasing the overall availability of equipment for scheduled runs, Conductors and Engineers now spend more of their working time on the same train set, resulting in greater equipment familiarity.

In 2010, the Transportation team redesigned operations to allow trains to start and stop in the same location each day.

MBCR uses the following Transportation and Mechanical inputs to model operations scenarios:

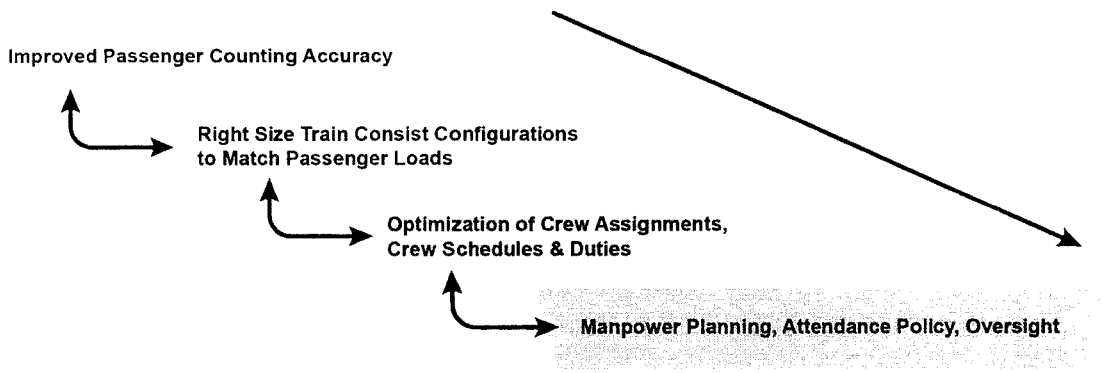
- Reliability of locomotives and control cars
- Configuration of train sets
- MBTA schedules and crew requirements
- Train set inspection and servicing times
- Train crew and mechanical crew schedules
- Crew assignments and working times

In addition to ORTEC, MBCR has built a Rail Traffic Controller (RTC) model for the entire MBTA network using simulation software to dynamically show all train movements. MBCR Operations Planning, Transportation, Engineering and Mechanical managers use the model to analyze "what if" scenarios and guide decisions for infrastructure upgrades, revised train operations, and proposed changes to existing MBTA schedules. Please see Supplemental Appendix 3 for more detail on MBCR's RTC Model. ORTEC, RTC and various MBCR-generated spreadsheets will continue to help MBCR Transportation Managers plan and understand the cost and service impacts of proposed operational changes prior to implementing them. Operational modeling supports the following goals:

- Plan crew operations quickly and efficiently
- Provide the same or better service at reduced cost
- Achieve productive staffing on all trains, while preserving crew rest time; monitor and manage crew fatigue and safety
- Minimize crew-related train disruptions through improved utilization of workforce
- Reduce the number of unique train configurations to provide more flexibility with backup train sets and equipment interchangeability
- Speed up operations through scrutiny of turn times, maintenance cycles and sign-on/sign-off times
- Accurately forecast the need for additional train operations, hiring of T&E crews, accounting for projected employee attrition
- Estimate crew resource requirements for new or expanded service

Sequential Inputs to Operational Modeling for Crew and Equipment Scheduling

The illustration below demonstrates how MBCR transportation plans are developed with a series of crew, passenger, schedule and equipment-related inputs to establish the most productive, compliant and cost effective operations possible.


Improved Passenger Counting Accuracy
Right Size Train Consist Configurations to Match Passenger Loads
Optimization of Crew Assignments, Crew Schedules & Duties
Manpower Planning, Attendance Policy, Oversight

6.A.3 Maintaining and Publishing all Applicable Rule Books and Employee Timetables

MBCR has consistently demonstrated leadership and commitment to organizational knowledge of operating rules and efficient dissemination of all applicable procedures, bulletins and special instructions. To remain at the forefront of industry knowledge in this critical area, MBCR will continue to serve as a member of the NORAC Operating Rules Advisory Committee and publish and provide all applicable employees with the most recent editions of the NORAC Book of Operating Rules. In addition, MBCR publishes and distributes the following items, for which all relevant employees are accountable:

- MBTA Service Procedural Manual to include the latest edition of the NORAC Book of Operating Rules and all System Special Instructions relating to them
- MBTA Commuter Rail Service Employee timetable containing a "Stations" page and all "Line Special Instructions" for each Commuter Rail line
- Bulletin Orders and Division Notices as defined by System Special Instructions
- General Orders making necessary changes to the MBTA Service Procedural Manual and MBTA Commuter Rail Service Employee Timetable

MBCR maintains a process to obtain and distribute to employees Bulletin Orders, Division Notices, Operating Bulletins from CSX, Employee Timetables, Rule Books, and General Orders of third party railroads dispatching MBCR trains or providing on-track safety for MBCR employees. Ultimately, MBCR employees' thorough knowledge of and adherence to all operating rules, procedures, special instructions and timetables is essential to maintaining passenger and employee safety at all times.

Conductor Companion™

The Conductor Companion pilot program is a first-of-its-kind application that consolidates all the information a Conductor needs to know and places it in a searchable database that responds to queries in seconds. The app uses a satellite function to show the speed, exact location and track assignment of every train on the Commuter Rail system. It relays all T-Alerts and pager messages for the Commuter Rail and subway system, enabling MBCR crews to better communicate delays, service interruptions and other information directly to customers as events unfold.

The application also allows crews to electronically access schedules, fare information, FRA regulations, operating procedure manuals and other directives that Conductors are currently required to carry while on duty. It is supported by the Federal Railroad Administration.

MBCR Conductor Companion supports accurate, real-time information for Conductors

All Conductor Companion devices are designed to comply with FRA regulations and MBCR policies. These devices prohibit Conductors from using the mobile telecommunication capabilities of a normal phone (cell phone, text, email) while providing them with the ability to access system information. MBCR is expanding this pilot program with distribution of iPhones to all Conductors.

6.A.4 On-Board Revenue Collection, Revenue Reporting And Security And Revenue Accounting

The revenue collected by MBCR is generated from ticket offices and on-board sales. MBCR has worked diligently with our Conductors and ACs to consistently maximize the collection of on-board revenue and to tighten back end processes and controls. Ongoing training and monitoring ensure that our staff adheres to all fare collection and verification procedures, while our staffing guidelines provide sufficient coverage to collect or verify each passenger's fare. With a backdrop that included an economic downturn and fare increases, MBCR has maintained consistent ridership levels and achieved a 24% rise in deposited funds since 2004. To improve revenue security and processing efficiency, MBCR will continue its efforts to reduce the number of cash transactions on-board trains. This includes "Buy Before You Board" initiatives that encourage ticket purchase prior to boarding trains, as well as promotion of new mobile and electronic ticket purchase options through our partnership with Masabi

MBCR will Migrate Customers to Electronic Payment Options

MBCR will continue to develop and implement strategies to migrate on-board cash payments to transactions using current and future electronic innovations. Use of electronic ticket purchase options provides numerous benefits:

- Offers greater customer choice and flexibility
- Increases the speed and accuracy of issuing tickets for our customers
- Minimizes opportunities for fraud
- Streamlines accounting procedures
- Highlights customer travel patterns to assist with crew and equipment planning

MBCR Conductors, Ticket Agents and Customer Service Representatives will continue to promote use of the mTicket app and an expanded suite of electronic payment and ticket verification capabilities to be developed in partnership with Masabi with agreement of MBTA. In particular, we will focus on educating passengers about the convenience and security of these tools to expand usage.

mTicket Application

MBCR was instrumental in the partnership with the MBTA to develop and launch the mTicket initiative.

MBCR was instrumental in the partnership with the MBTA to develop and launch the mTicket application. We provided critical information about ticket rules and validities, while our Conductors assisted with the design of the visual ticket for quick and accurate ticket checking, and the development and testing of the Customer Service Agents' online tool. The involvement of MBCR frontline union employees and managers in the project development allowed for seamless introduction of this new ticketing product. We also trained our Conductors/ACs and ticket agents to ensure a smooth, successful launch.

MBCR further supported the mTicket launch by authorizing the development of a mobile application for our Conductors' iPhones to scan bar codes behind the customers' mobile tickets to ensure validity. MBCR ticket agents offer mTicket frontline support by helping customers with any issues related to the app, including transfer of data across devices, processing mobile ticket refunds and providing other technical support. MBCR continues to promote mTicket app usage to assist the MBTA in its goal for 33% of Commuter Rail ticket purchases to occur through the app within one year of its October 2012 launch.

Special Events: Creative Tactics Protect Revenues

MBCR piloted and standardized the use of flat fare sales for special events and the Patriots trains, including use of the Charlie Van as a mobile ticket office at crowded stations, to capture Special Train fare revenues that previously went uncollected. Our efforts have resulted in significant incremental revenue capture for the MBTA. For example, MBCR collected $305,000 in additional revenue during the Bruins Stanley Cup victory parade in 2011. A more detailed description of MBCR's Special Event Management is available in the Customer Service Section 7.A.3 of this proposal.

Fraud Detection and Action Prevent Free Riders and Scammers

In 2011, an MBCR Conductor on the Providence line acted on suspicions of a fraudulent pass that led to the source of a massive counterfeit ticket printing scam estimated to be costing the MBTA in excess of $840,000 per year.

Our thorough training program ensures that all frontline revenue staff members are subject experts on ticket types, transaction/verification procedures and the identification of fraudulent tickets or counterfeit currency to ensure the protection of MBTA revenue. In the past, our conductors have identified and reported numerous fraudulent tickets, in some cases leading to the apprehension of comprehensive fraud operations. In 2011, an MBCR Conductor on the Providence line acted on suspicions of a fraudulent pass that led to the source of a massive counterfeit ticket printing scam estimated to be costing the MBTA in excess of $840,000 per year.

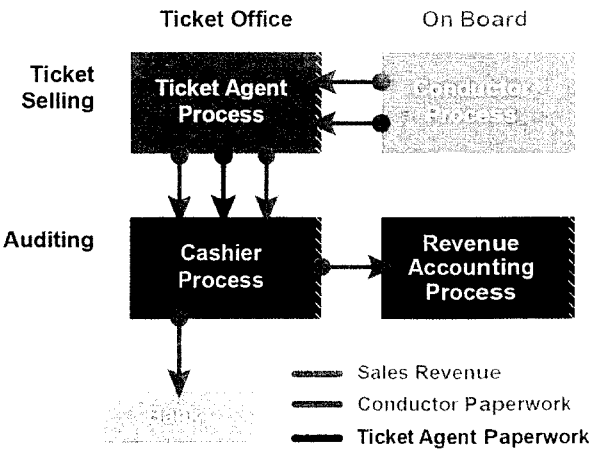
Loss Prevention program

MBCR partners with Northeastern University criminal justice students to perform as "Revenue Risk Contractors." These students anonymously ride our services, observing on-board fare collection, and report any variances from MBCR revenue rules, policies and procedures. In addition to this program, MBCR's new Mystery Rider program, detailed in the Customer Service Section 7.A.5, will monitor Conductor activity and provide actionable feedback through Quality assessments from the customer's point of view.

Revenue Reporting and Accounting

Since the beginning of our contract, MBCR has developed and implemented a series of revenue policies, procedures and standards to diminish the likelihood of fraud and theft. Our management audit program provides strict management controls over all revenue collection, reporting and accounting processes. This tiered approach from the bottom up ensures that Conductor and Ticket Agent paperwork and bank deposits are checked and reconciled at the ticket office level and subsequently by the Revenue Accounting department that provides further oversight. Additional information on Ticket Revenue Systems and Processes, including daily reporting through the Ticket and Revenue Accounting Control (TRAC) system, is available in Section 6.A.11.

Ticket Revenue Processes



The MBTA's 2012 Internal Control Evaluation of MBCR's Revenue Collection Processes documented our existing approach (see diagram of four interrelated processes) and validated its success and integrity. This audit noted that *"**the control plan for Revenue Accounting was well designed.**"* It confirms that we have covered nearly all possible conductor risks in the on-board revenue collection process. It further states that "**all MBCR's revenue controls are designed to detect or correct risk factors.**"

6.A.5 Service Monitoring

Monitoring of Commuter Rail service and operations starts with our General Manager and continues as a core responsibility of every MBCR manager. We monitor Commuter Rail service through observations and tests, train rides, field data collections, reports, calls, anecdotal information and customer feedback. The information provided through service monitoring and measurement is the backbone of MBCR's Quality Assurance plan and feeds the continuous improvement loop that strengthens our service execution to consistently meet OTP, safety and customer service goals.

Service Monitoring Drives Continuous Improvement

Service monitoring is a critical component of our basic quality cycle of "Plan-Execute-Monitor-Assess". Our transportation service monitoring efforts described below drive the cycle by generating data and information (Monitor) that is constantly reviewed by our management team (Assess) to become the input for our modeling (Plan) which drives ongoing revisions to our operating plan manifested in revised priorities, work processes, and activities (Execute).

Daily Management Calls Bring Key Decision Makers Together

At the center of this cycle are two daily MBCR calls – at 9 a.m. and 3 p.m. – with attendance from all of the operating departments, Safety and Customer Service, as well as managerial and MBTA monitoring of the morning call. Prior to these two calls, the TRMS-II generates daily service reports detailing the prior 24 hours' activity that managers use to review current and expected operations and frame decisions. On the calls, managers discuss current operations in detail, identifying any trains experiencing delays and necessary interventions. Managers also discuss incidents impacting the morning commute, ongoing track work projects and special event trains, ensuring that all parties are working together to mitigate disruptions and proactively plan for improvement. In addition, managers identify any service impact concerns for upcoming operations later that day or looking forward, so that preventative or mitigating measures can take place beforehand.

Service Monitoring Sources and Systems

MBCR operates and maintains many monitoring systems and devices to capture and disseminate meaningful information about operations. Various reports provide the basis for real-time decision making and dovetail into an analysis of daily, weekly, monthly or longer term performance. The following monitoring tools have been developed both internally and in partnership with the MBTA:

- TRMS-II contains trip records to generate data on incidents by reason code, incident type, train, line and locations.
- Daily service calls bring key decision-makers together.
- Parature Customer Relationship Management (CRM) tracks complaint data by cause, line, train, station and time.
- All-Pager Alerts keep MBCR leadership fully informed about Commuter Rail operations by notifying executive staff of any and all incidents and delays.
- GPS monitoring provides real-time train location and updates Automated Vehicle Locator (AVL) system that updates the Passenger Train Information System (PTIS).
- Expanded Automatic Equipment Identification (AEI) Monitoring shows locations of trains at specific passing points on the network.
- Crew dispatch and planning generates a crew availability report each morning that identifies staffing shortages and initiates workarounds to provide adequate crews to the trains and to call relief employees.
- Mechanical report outlines available coaches and locomotives.
- Daily Mechanical Failure Report (DMFR) provides a snapshot of equipment issues.
- An "AM and PM Line-Up South Side and North Side" master spreadsheet tracks train consists identifying locomotive, control car and an adequate number of coaches to provide seating for Peak Period travels (determined by Passenger Counts).

› The equipment utilization report shows the ratio of "in-service" hours to idle hours for each piece of service equipment

The data and information provided by our service monitoring sources and systems drive immediate action; but more importantly, they support the reporting and analysis necessary to drive continuous improvement and direct capital investment to where it best impacts safety, punctuality, passenger convenience and comfort.

6.A.6 Performance Analysis and Reporting

MBCR's Performance Analysis and Reporting is tightly integrated with Service Monitoring in the Plan-Execute-Monitor-Assess quality improvement cycle. The data and feedback generated from service monitoring informs MBCR's performance analysis and reporting, which in turn drive the actions and process improvement initiatives that positively impact overall operations and customer service.

A disciplined culture of service monitoring, coupled with tightened executive oversight, management training, Quality certification, and new operational modeling tools, will give managers the insight to diagnose root causes of service deviations and correct them as quickly as possible before they impact Commuter Rail performance. This process aims to anticipate all potential incidents, delays and disruptions and avert them before the customer experiences any inconvenience.

A disciplined culture of service monitoring, coupled with tightened executive oversight, management training and Quality certification, and new operational modeling tools, will give managers the insight to diagnose root causes of service deviations and correct them as quickly as possible before they impact Commuter Rail performance.

System Dynamics Model Helps Solve Complex Problems

Our rail system is made up of a series of interconnected elements which combine to create a cohesive, high-performing network. These interconnections mean that incidents, changes or improvements that take place on one part of the network are likely to have an impact on other parts of the operation, sometimes in ways that are difficult to predict.

MBCR's managers have extensive day-to-day experience operating the MBTA Commuter Rail, and are highly skilled at ensuring that decision-making delivers the best operational outcome for the service overall. Where operational challenges are more complex, however, a problem-solving approach that is able to model potential outcomes for a range of interdependent factors and different scenarios is required. Examples include severe weather disruption, significant timetable changes, multiple simultaneous track works and exceptionally high volumes of riders on one part of the network.

In cases such as this, we use a method called "System Dynamics Modeling" to work through possible 'what if?' scenarios and identify the optimal solution for the network as a whole. System Dynamics Modeling involves identifying all the likely consequences of decisions or events step-by-step. This avoids negative, unintended consequences for passengers and OTP and ensures that solutions are fully worked through and considered before we implement them.

We use our human skills, experience and expertise in combination with specialist modeling software to effectively and efficiently produce operational plans that achieve the most positive service delivery for passengers. System Dynamics Modeling is a management approach used successfully across a range of industries dealing with complexity, such as manufacturing and utilities, as well as other railroad operations. MBCR has trained its leadership team on the benefits and applications of System Dynamics Modeling utilizing Mark Fagan, Adjunct Professor at Harvard's JFK School of Government and Management.

MBCR will pilot this technique to mitigating the impacts of fall foliage on OTP during the 2013 "Slippery Rail" season. System Dynamics Modeling principles are also in the process of being built into our Rail Traffic Controller (RTC) simulation program.

Rail Traffic Controller (RTC) Simulation

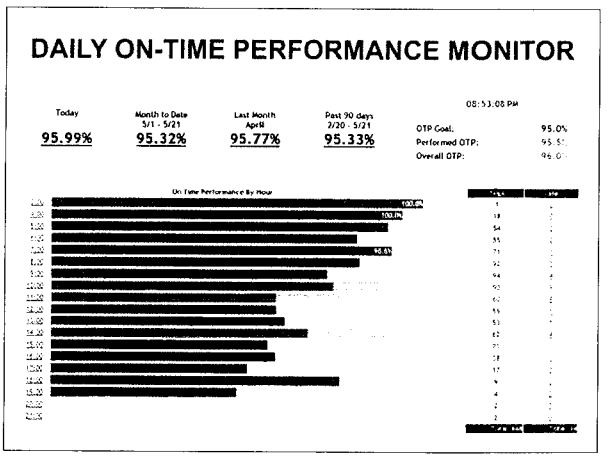
MBCR has modeled the entire Commuter Rail system using RTC software (Berkeley Simulation Software) that simulates the movement of trains through our network at a detailed and realistic level. MBCR will use this model to analyze a single line or an entire network, and to visually preview the impact of a proposed change, disruption or improvement, over the course of multiple days of operations. RTC will help MBCR model new service scenarios, such as more frequent or express service, and help visualize patterns of disruption resulting from specific delays or infrastructure constraints. MBCR has developed and used the model on the Worcester Line for the tactical improvement of traffic flow to determining where capital infrastructure money should be spent. Going forward, we will expand the model for use on the North and Old Colony Lines. Following are various examples of RTC in action:

MBCR Operations Planning and Dispatchers use RTC to analyze and predict coordinated train movements

- Determines the number of train delay minutes, consumption of fuel by speed of trains and throttle applications, and validates schedules to optimize OTP.
- Used to design the Worcester Express schedules, by modeling alternative scenarios, based on specific slot information.
- Helped MBCR build its speed track program on the Worcester Line, by modeling different infrastructure upgrade possibilities to determine cost benefit analysis.
- Creates schedules to work around capital projects; when a track is coming out of service, RTC shows the impact on the whole system and simulates the best alternative train movement plans.
- On the Fitchburg Line, there is a 10 mph slow order on a track segment in Waltham. RTC enables us to visually demonstrate the impact on trains, in terms of delays and coordinated scheduling.

Analysis of Underlying Causes Generates Effective Solutions

MBCR transmits performance and monitoring reports (including daily OTP, Late, Cancelled and Terminated Trains reports, daily Train and Engine Staffing reports, and Supplemental OTP reports as outlined in ODRLs 3.1-001 through 3.1-026.) to key stakeholders and uses the information to focus analysis of problems and proactively prioritize initiatives.



Dashboard of Key Performance Indicators (KPIs)

MBCR's enhanced KPI dashboard (please see Management Section 8 for further detail and visual examples) will roll all service monitoring outcomes up into meaningful operational insight about safety, OTP, train delays, mechanical equipment availability,

customer service and everything that impacts MBCR and MBTA goals and the customer's experience. KPI "Score Cards" are used on a daily and weekly basis to track accomplishments and issues, and on a monthly basis to review trending from prior months. We also use them to compare year-over-year and month-over-month results to establish team goals and track improvements and initiatives to achieve higher goals. With the ability to drill into the detail of each high level KPI, cross-functional teams from Transportation, Mechanical, Engineering, Customer Service and Safety work together to analyze underperforming KPIs and understand any underlying issues.

Root Cause Analysis

Our ongoing management training and ASQ certification in Quality Management will give MBCR managers the advanced skills to utilize data to focus performance improvements based on root cause analysis. When the TRMS-II captures daily operational data, it categorizes incidents and delays by department, "cause" codes, train, date, time and location, as well as other operating indicators. We also receive categorized customer feedback information through Parature, our Customer Relation Management system described in detail in Section 7.A.4. Our managers then analyze the data and utilize it to identify the root cause of failures and contributing factors to implement corrective measures. When coupled with reliable insight and operational modeling, this data can identify the critical few issues from the trivial many, and effectively reveal the real cause of a problem along with opportunities for positive change. MBCR Managers will go beyond addressing the symptoms of problems and apply various forms of root cause analysis and quality management tools to identify latent failures and vulnerabilities that are the true cause of operational problems. The end result of these efforts is to consistently improve the customer experience by addressing feedback, fixing the causes of delays, and channeling resources to locations and operational processes that have the most potential to elevate service quality.

6.A.7 Training

A high performing culture is essential for an Operator to deliver first-class service and to effectively implement improvements, innovations and new work practices. Since 2003, MBCR has delivered comprehensive training and certification programs to expand and refine the ability of our team. We will continue this approach into the next contract building upon our culture of safe operations, competence and personal growth for employees, while creating a culture of data-driven, continuous improvement management for our leadership. This is in line with MBCR's belief that each and every employee plays a role in delivering outstanding safety and service to customers.

MBCR Graduates its 6th Class of Locomotive Engineers

Comprehensive Transportation Training Programs

Throughout our current contract, MBCR has recruited, hired and developed a diverse group of Transportation personnel. MBCR employs specialized screening to select all new Locomotive Engineers and ACs. Since 2003, MBCR has trained and integrated 59 Engineers and over 200 ACs, and graduated six groups of Engineers who have all earned Class 1 Passenger Engineers Certifications. Through ongoing training and on-the-job skill development, 77 ACs have been promoted to Conductor.

MBCR's rigorous Class 1 Passenger Engineers certification program features 10 weeks of classroom training on a range of subject matter, including federal railroad regulatory laws, railroad operating rules, physical characteristics (territorial awareness), and diesel engine theory. It also requires extensive on-the-job field training by student engineers for the better part of a year developing train handling and fuel conservation techniques.

Train Dispatchers are fully trained on NORAC operating rules, federal regulations and safety rules, and are qualified on the physical characteristics of the territory on which they dispatch.

MBCR will continue to administer all required training mandated by Federal regulations or law, including regulatory, state, MBTA and FRA training and certification requirements. MBCR delivers this training within required time limits specified by regulation or MBCR Special Instructions. MBCR is fully prepared for compliance with new training, qualifications, and oversight for safety-related railroad employee regulation that is currently in the FRA's Notice of Proposed Rulemaking stage.

For ongoing refresher training, MBCR Operational Competency and Rule Compliance groups ensure that all operating employees undergo intensive safety training, operating rules, regulatory compliance and customer service examinations on an 18-month training schedule. This training ensures our employees deliver safe, reliable and efficient service.

Furthermore, MBCR provides Automated External Defibrillator (AED) and CPR training that enabled our team to save the life of a passenger in full cardiac arrest. Please see Supplemental Appendix 7 for MBCR's Training Plan, including specific Transportation Department training courses.

New Fleet Training and Qualifications

With the arrival of new, more sophisticated Rotem coaches and MPI HSP 46 locomotives, MBCR has completed Rotem training for all Operating Personnel and will begin training Engineers this summer on the new locomotives prior to introducing them into daily service.

MBCR's partners Bombardier and Veolia have extensive experience with Rotem and MPI equipment at other transit agencies (Rotem at Metrolink and TriRail; MPI at GO Transit and Metrolink) and have processes and procedures in place to get a workforce up to speed on all aspects of the equipment. We will leverage these training and maintenance practices to ensure all Conductors and Engineers are fully trained on features, functions, idiosyncrasies and troubleshooting of the new equipment as quickly as possible. MBCR will continue to provide staffed locomotives and coach consists for testing and qualifying new locomotives and coaches, as directed by the MBTA.

Rotem Coach Training

MBCR completed a "Train the Trainer" program to equip Transportation personnel to demonstrate and familiarize crews with the following:

- Engineer's cab overview
- Cab signal access and alerter training
- Rotem power door training
- Rotem exterior/interior characteristics
- Setup for operation
- Operator Display Screen (ODS)

MPI Locomotive Training

All Locomotive Engineers will complete training by the end of 2013. MPI recently trained the first two MBCR Managers and completed a "Train the Trainer" program in Boise, ID to prepare for initial locomotive arrival. Based on successful training and seamless integration of MP 36 locomotives in 2011, MBCR has initiated a 3-day training program (2 days classroom and 1 day on-the-job) for each Engineer to gain hands-on practice operating the equipment. Engineers are required to pass a test confirming mastery of the following concepts:

- ODS training
- Cab set up and operation
- Mechanical overview
- GE Troubleshooting screen integration
- Parking brake
- Troubleshooting
- Safety devices (alerter access)

Enhanced Training Using Simulators

MBCR will procure two simulators to provide invaluable hands-on equipment practice and instruction for Locomotive Engineers, as well as for Conductors and Train Dispatchers, prior to operation in the field. These simulators will consist of two mock-ups, a cab car and a locomotive shell and will result in skills to improve train handling performance, schedule adherence, rule compliance, trouble shooting, fuel conservation, and will reduce the overall duration of the training period. The simulators will be developed to accurately portray the same audio and visual conditions Locomotive Engineers experience when operating a live train. They will have the capability to mimic locomotive faults and various anomalies the Engineer might encounter. These techniques will allow the Engineer to learn the skills necessary to operate the train smoothly while meeting schedule requirements and minimizing fuel consumption.

MBCR's South Side Maintenance Facility Improvement Proposal (please see Supplemental Appendix 2 for details) will include a training center as part of Phase 1. We have already leased 4,500 square feet at the facility with dedicated classrooms and workstations and plan to locate the simulators here once purchased.

Additional Training Priorities

MBCR's Transportation training plan will also include the following training programs to build skill and competency for specific employees as needed:

- Training for corrective behavior and remedial training
- Training applicable to employees who are promoted to a supervisory role
- Implementation of computer-based training and curriculum for suitable subject matter, to augment and expand on traditional classroom training
- Training in use of installed systems (e.g. use of Harmony, Outlook, TRMS)
- Basic computer training to increase computer literacy and usage
- Managerial training program in the use of Root Cause Analysis, Data Mining and Analysis, and Statistical Process Control

To facilitate the implementation of quality and process improvement, selected managers are currently undergoing the Manager of Quality/Organizational Excellence Certification through a rigorous 8-week course. We will reinforce this program with additional training in use of methods, tools and analysis necessary to support a management system of "Continuous Improvement."

MBCR Locomotive Engineers are also participating in a research study, conducted by our partner Veolia and the FRA, at the U.S Department of Transportation's Volpe Center to understand and mitigate the effects of distraction on rail operators. The findings of this research will serve as the basis for training modules for MBCR Locomotive Engineers, introducing them to the concept of workplace distraction and developing strategies for recognizing and mitigating distraction. Please see Supplemental Appendix 1 for more information on this study and training development.

Scheduling Time for Training and Staffing Coverage

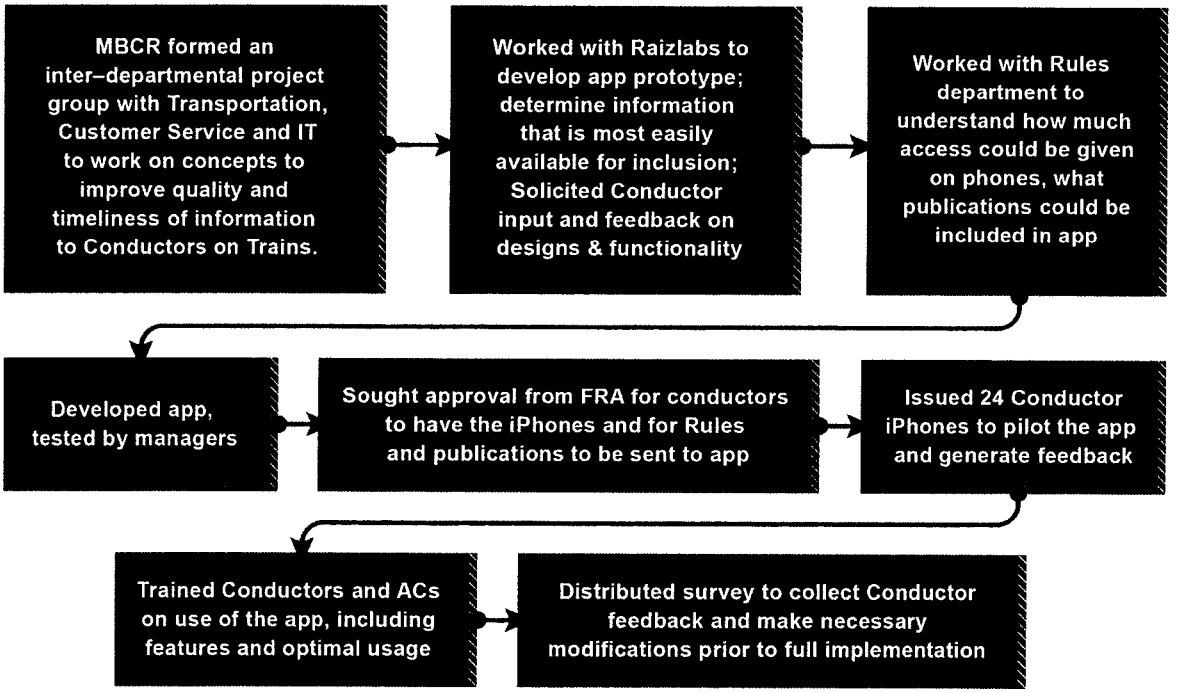
Traditionally, taking train crew and dispatch employees from their scheduled assignments for training blocks has been challenging and costly, requiring backup staffing from spare boards and, in many cases, additional overtime pay. We are using ORTEC Crew Duty Generator to model crew staffing scenarios and establish week-long training blocks as part of MBCR's Transportation Training Plan. This generates the most cost effective scenarios for groups of employees to rotate through training each week of the year, while ensuring full staffing coverage in the field.

6.A.8 Integrating New Technologies and Work Practices

To meet or exceed the MBTA's required performance levels for OTP, Consist Requirements and Train Staffing, as well as our safety and customer satisfaction goals, MBCR constantly evaluates new technologies and work practices that have the potential to ensure consistency and quality in staffing and service. Our team utilizes technology to generate actionable data, optimize resource utilization, and communicate with customers, the MBTA and other transit agencies in real time. MBCR will continue partnering with the MBTA to capitalize on the growth in communication and information management by developing and piloting new technologies or work practices introduced by the MBTA, as well as driving our own initiatives through to fruition.

A key aspect of our success has been not only identifying the specific technologies or work practices that are suitable for the Commuter Rail environment, but effectively managing the resulting change that impacted our employees. This was managed by (1) well-timed planning of any technological roll-out or new work practice; (2) effectively conveying the benefits anticipated for passengers and the system; and (3) empowering our staff through training on appropriate tools and work practices. As a result, our staff is confident in our ability to effectively implement and integrate new technologies and work practices and to view these changes positively. MBCR's efforts to solicit personnel input into the design and planning of these tools has resulted in successful implementation with minimal resistance to change. The diagram below illustrates the steps we took to implement the Conductor Companion app, as an example of how we approach all significant changes:

Conductor Companion Planning and Implementation Process


MBCR formed an inter–departmental project group with Transportation, Customer Service and IT to work on concepts to improve quality and timeliness of information to Conductors on Trains.
Worked with Raizlabs to develop app prototype; determine information that is most easily available for inclusion; Solicited Conductor input and feedback on designs & functionality
Worked with Rules department to understand how much access could be given on phones, what publications could be included in app
Developed app, tested by managers
Sought approval from FRA for conductors to have the iPhones and for Rules and publications to be sent to app
Issued 24 Conductor iPhones to pilot the app and generate feedback
Trained Conductors and ACs on use of the app, including features and optimal usage
Distributed survey to collect Conductor feedback and make necessary modifications prior to full implementation

In addition to new technology and work practice integrations, MBCR Transportation has demonstrated its ability to plan and execute the expansion and upgrade of commuter services in partnership with other transit agencies, such as the addition of the Greenbush line, the re-initiation of CapeFLYER service to Cape Cod, and Engineering Work to upgrade the Worcester line to design new Express Train Service. Our experience mobilizing staff and equipment and designing schedules and rules for new territories best positions MBCR to execute expected service extensions such as South Coast Rail, Fitchburg Line extension and other planned initiatives.

Future Technology and Work Practice Innovations

MBCR will evaluate and implement new technologies and work practices both proactively and in response to issues that come to light through our service monitoring and performance analysis activities. As we carry out regular updates to required and additional Transportation Plans (TSP, Train Staffing Plan, Snow Management Plan, Revenue Collection Procedures, etc.) we will carefully review and pilot available technologies and Quality process improvements for cost effective opportunities to refine our operations and achieve better service. Following are examples of the types of technologies and work practices that we will plan, pilot and implement:

- Phased implementation of JustRide™ (described in Section 6.A.4) to provide Conductors with handheld devices that process credit/debit card fare transactions and scan physical and electronic tickets.
- Pilot use of Automated Passenger Counting device on trains to get statistically valid passenger counts for all weekday and weekend runs, to ensure optimal staffing on trains and verify capacity requirements for consist assignments.
- Technology and work processes that support electronic sign-on and job briefing will improve staff efficiency and management oversight.
- Completion of work to phase out Waltham Tower, the last mechanical tower on the system, and move control of the interlocking into the Northside Train Dispatching System. This significant technology upgrade, which requires in depth understanding of both the old and new technologies, will modernize the control of the Fitchburg Line.
- Potential implementation of Driver Assist technology in locomotive cabs. If the MBTA approves this Improvement Proposal, the technology will enable significant reduction in locomotive fuel consumption (expected savings of over $4 million annually), while reducing CO2 emissions by approximately 8%.

With these, and all other new practices, we will ensure adequate training, communication and review of feedback from employees and customers to ensure that the ensuing change is embraced by the organization and has the positive impact intended.

6.A.9 Enforcing Third Party Warranties

To protect the financial investment in assets belonging to the MBTA, we will cooperate fully with the MBTA to fulfill any warranty obligations and to administer them on behalf of the MBTA. A key component of our Quality Assurance Plan involves manufacturers' standards and warranties. We currently have procedures in place to verify that all operational activities take place in accordance with manufacturers' warranties. MBCR will provide the MBTA with any information necessary for the administration of these warranties.

The Trapeze Enterprise Asset Management system that is being implemented across the Engineering and Mechanical departments includes a module to track all asset information, including recording of serial numbers and maintenance history associated with warranties on these assets.

6.A.10 All Required Reporting

MBCR has processes and controls in place to carry out all reporting and notifications required by regulatory agencies and laws. For example, each department reports all reportable injuries, incidents, accidents and hours of service violations, which are input in the Accident Incident Report Generator (AIRG) and reported per FRA guidelines on a monthly basis (see Safety Section 2.A.5 for more details). Under these regulations, MBCR created an Internal Control Plan that details our incident and reporting investigation procedures, as well as corrective actions and follow up. This plan also specifies our activities to maintain full compliance with internal controls and reporting procedures.

The FRA has approved our Internal Control Plan and conducts audits of MBCR's program every two years. MBCR maintains a fully cooperative relationship with the FRA.

The Transportation Department, in conjunction with the Safety Department, tracks and reports the following statistics and information to transit agencies:

AGENCY	REPORTING
FRA	• Hours of Service Violations • Employee, Passenger and Contractor Injuries/Illness • Operating Rule Violations • Derailments & Collisions • Grade Crossing Accidents • Trespasser Strikes
MBTA	• Operating Rule Violations • Derailments & Collisions • Employee, Passenger and Contractor Injuries/Illness • Grade Crossing Accidents • Trespasser Strikes • Any major service interruption • MBTA Train Delays • Daily T&E Report • All Transportation ODRLs (3.1-001 through 3.1-025)
Department of Public Utilities	• All Grade Crossing Accidents
National Transportation Safety Board	• Any major incident involving a fatality or collision
TSA (Homeland Security)	• Any incident requiring a train evacuation • Any incident involving an explosion or suspected act of terrorism
MBTA Transit Police	• Derailments • Grade Crossing Accidents • Trespasser Strikes • Unattended or suspicious packages left on trains or observed in stations or along the right-of-way • Any incident that falls within the MBTA notification sequence • Medical Emergencies • Unruly Passengers • Vandalism • Theft

In accordance with MBTA requirements, MBCR will continue to report on all service disruptions and train delays, in accordance with established reporting protocols and timeframes. MBCR will also provide a Daily Train and Engine Staffing Report by 6 a.m. each day, listing any understaffed trains and the reason for insufficient staffing levels.

6.A.11 Ticket Office Staffing, Operation and Maintenance

MBCR's customer service management team brings proven success managing the commuter rail ticket offices at South Station, North Station and Back Bay. MBCR ticket offices are staffed in accordance with MBTA contractual requirements and have created an environment where no customer waits for more than one minute "off peak" to four minutes during the end of month pass rush to see an agent.

MBCR's ticket office team was pivotal during the development and implementation of the MBTA's mTicket initiative, and today we are the face of the application. Agents are able to troubleshoot customer issues, migrate tickets and function as the frontline customer service resource for the program.

MBCR has...created an environment where no customer waits for more than one minute "off peak" to four minutes during the end of month pass rush to see an agent.

Ticket agents maintain and troubleshoot the processing systems within the ticket offices, and manage and store tickets for the MBTA, often providing backup supply when the MBTA has run out of tickets for vendors at outstation locations. MBCR also monitors the MBTA's Ticket Vending Machines (TVMs), an important sales terminal for our customers, and our agents proactively notify the MBTA when they are not working properly.

MBCR managers audit each ticket office monthly to ensure compliance with all processes and procedures. The Ticket and Revenue Accounting Control (TRAC) system, designed internally by the MBCR Information Technology department, records all agents' ticket sales and revenue received, while monitoring overages and shortages, as well as how many transactions have occurred. This allows prompt and timely reporting to the MBTA allowing us to meet the requirement to report all revenue within a 24-hour window.

To ensure that MBCR ticket agents are doing their jobs effectively and accurately processing all transactions and revenues, managers observe agents and capture feedback from customers. MBCR managers and cameras monitor performance, including quality of face-to-face interaction, as well as the wait times at ticket windows.

6.A.12 Incident Management in order to Minimize Safety Hazards and Service Disruption

When incidents occur, as they inevitably do, it is easy to get wrapped up in technical and operating issues and forget that at the heart of everything is the impact on the customer and our need to serve them. While MBCR has developed an effective incident management and response infrastructure to deploy in the event of an incident on the Commuter Rail, we are equally committed to planning and work practices that prevent incidents in the first place. When an incident does occur and we must react, our management team relies on sound judgment informed by years of Commuter Rail experience, as well as proactive techniques to anticipate cascading problems and minimize them before they create an even larger problem. Our ability to effectively respond to an incident is enhanced by our Zone-based management structure.

Responsive Incident Management

When incidents cause delays or otherwise impact Commuter Rail Services, MBCR adheres to all incident management notifications, procedures and reporting specified by the MBTA. This includes notifying the MBTA On-Duty Officer, notifying the public at stations and issuing announcements on board trains. Our Conductor Companion is particularly effective for crews to access real-time information needed to assist people already on the train.

MBCR staff and leadership are experienced at incident management. We quickly mobilize our team through the Zone Plan structure to organize Rapid Responders to quickly instigate needed services, repairs and workarounds. This structure, with equipment, resources and operational planning largely segmented by specific territories, also enables us to contain and isolate incidents so that one situation does not cripple the entire network. MBCR's Control Center Conference bridging ensures that communication and decision-making are fast and inclusive. Prior scenario planning and practice drills provide a response structure that can be adapted and deployed as needed. Our ten years' experience and knowledge of planning, processes, operational linkages, databases and day-to-day scenarios is instrumental in getting all trains where they need to go, in all kinds of circumstances.

Dispatch Serves As Interim Incident Commander

For MBCR dispatch personnel, incident response is second nature, involving immediate communication and rapid deployment of the appropriate resources to the scene. MBCR's formalized processes and relationships include:

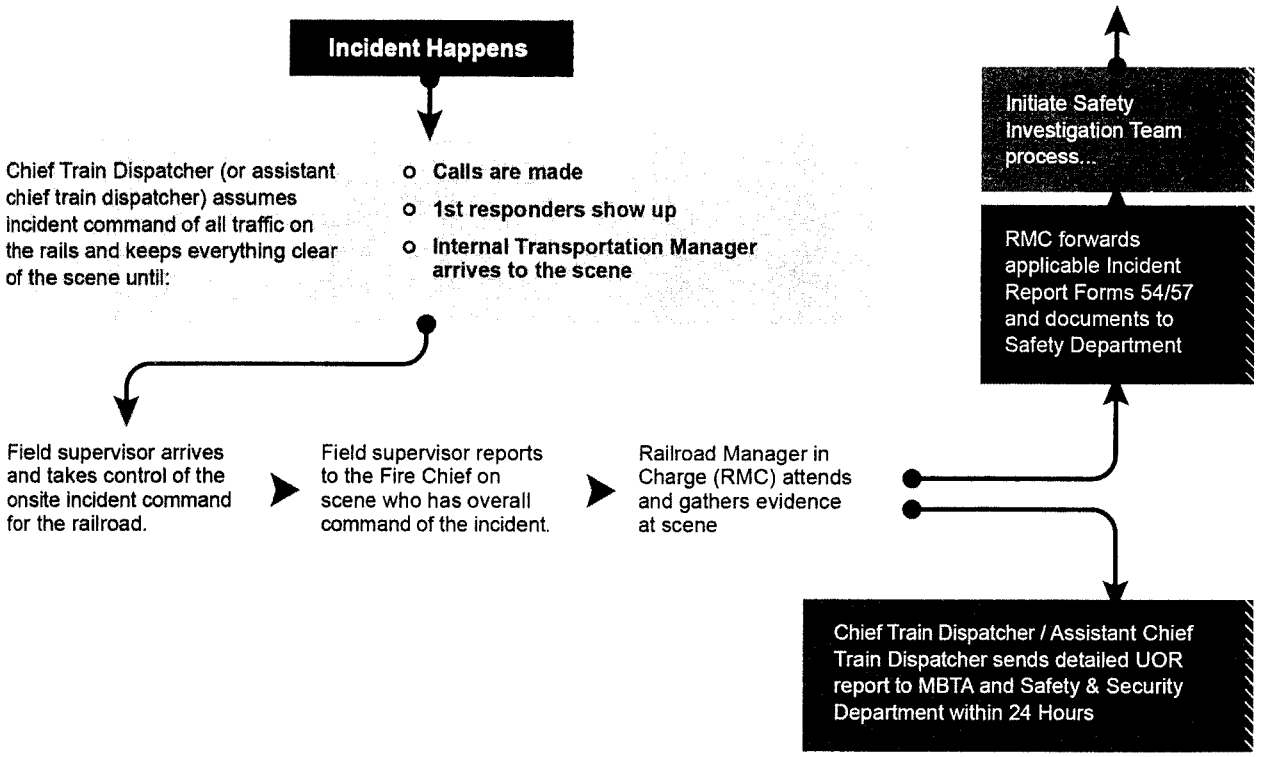
- Emergency notification call sheets to ensure quick notification of major service disruptions to all required parties
- Positioning of "protect" equipment and crews for quick response and recovery
- Established vendors providing alternate transportation, including handicapped-accessible vehicles
- 24/7/365 emergency hotline for public reporting of grade crossing issues to arrange protection
- Coordinated protection for community events in vicinity of right-of-way and grade crossings
- Strong, established relationships with other railroad control centers allowing for well-orchestrated coordination and reciprocal support
- Coordination of federally mandated disaster drills with local authorities
- Protocols for protection of Emergency Responders (Police/Fire) needing ROW access

MBCR Incident Command Policy and Procedures

MBCR's Incident Commander Policy and Procedures enable successful outcomes through guidelines that clearly define the incident command structure and appropriate personnel needed to resolve incidents. We have developed a standard, coordinated response that involves a list of first responders throughout the Commuter Rail territory and leverages our established working relationship with the MBTA Transit Police. These relationships have helped us coordinate customer assistance, while successfully reducing the time to recover from incidents. In the event of any disruption, MBCR also provides Customer Service staff onsite to coordinate buses, answer questions and ensure that each and every customer gets where they need to go.

MBCR has an FRA-approved passenger train Emergency Response plan (detailed in Section 3.D), as well as specific response plans for various incident types and individual stations. As outlined in our Mobilization Plan, all MBCR employees involved in Incident Response will be appropriately trained and/or certified in NIMS. The NIMS framework will ensure a common understanding and interoperability of communications and information management among agencies as responders recover from and mitigate the effects of incidents.

Incident Command Flow Chart


Incident Happens
Chief Train Dispatcher (or assistant chief train dispatcher) assumes incident command of all traffic on the rails and keeps everything clear of the scene until:
o Calls are made
o 1st responders show up
o Internal Transportation Manager arrives to the scene
Field supervisor arrives and takes control of the onsite incident command for the railroad.
Field supervisor reports to the Fire Chief on scene who has overall command of the incident.
Railroad Manager in Charge (RMC) attends and gathers evidence at scene
RMC forwards applicable Incident Report Forms 54/57 and documents to Safety Department
Initiate Safety Investigation Team process...
Chief Train Dispatcher / Assistant Chief Train Dispatcher sends detailed UOR report to MBTA and Safety & Security Department within 24 Hours

Effective Incident Communication

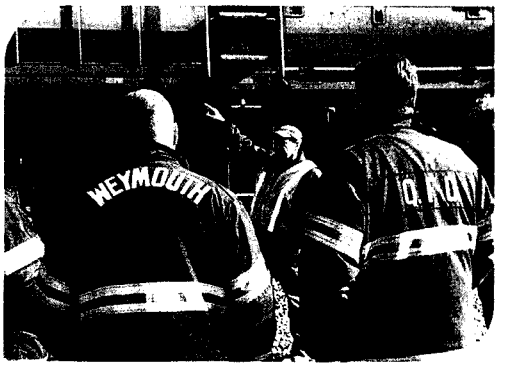
MBCR incident response relies on real time wireless communication to both staff and customers. Our well-tested internal communication loop supports deployment of crews and equipment to various stations, security inspections of infrastructure during terrorist-related threats, rapid remediation of fallen trees and wires that disrupt operations, and coordination of steps needed to restore service as expediently as possible. MBCR will use the new Conductor Companion communication system that allows Conductors to receive pertinent messages and alerts on handheld devices to provide timely, accurate information to on-board customers.

With T Alerts, Rail Mail and station announcements, MBCR keeps customers informed of service and safety issues related to incidents, as well as planned outages. To build on these existing communication channels, MBCR's Customer Companion app will allow customers to access service updates directly on their Smartphones and through social media outlets (please see Customer Service Section 7.A.1 for more detail on this innovative new tool).

Customer Email: "Thank you to all of the MBTA workers that were working at Back Bay on Monday during the Boston Marathon bombing and the aftermath. I headed to BBay to take the 5:15 train to Forge Park fully expecting chaos and was greeted by brightly vested MBTA employees, police and national guardsman that were organizing, explaining and corralling riders into areas where we were queued up and advised as to when our trains would arrive and when we could go downstairs. Hats off to all of the employees that greeted us calmly, with smiles and kept things orderly. I have been riding the train for 20 years and can say that Monday you pulled off a transit miracle! Great job everyone!"

Community Relationships and First Responder Training

Through our Zone Management Plan, MBCR managers have built meaningful relationships and contacts with many communities along Commuter Rail lines. A key benefit of these relationships is to strengthen the coordination between MBCR and local first responders in the event of an incident. Zone managers and safety personnel will continue to implement first responder training for police and fire departments, including classroom, practical and emergency response drills. These personal relationships with the local authorities are critical to gaining the expeditious release of incident scenes, allowing the resumption of train service. To date, MBCR has conducted this training in 57 different communities, with additional training and drills underway in Cape Cod communities.



MBCR Safety training with local first responders

Debriefing Process: Helping Determine Root Causes and Prevention

To facilitate our continuous improvement management process and evaluate the effectiveness of our response to incidents, a comprehensive debriefing of incidents is necessary to analyze the data and implement corrective and preventative actions if needed. For broader incidents, Emergency Responders are included in debriefings. Each investigation and debrief results in an Incident/Accident Report and Analysis that identifies issues and their severity and evaluates our emergency response. Through the use of computer modeling and analysis of data, MBCR's management team will endeavor to identify the root cause of all incidents to isolate problem patterns that can be counteracted through appropriate changes to operational work processes or modifications to facilities and equipment. This process helps MBCR continuously reduce safety hazards, prevent future incidents, and better prepare for those that occur.

6.A.13 Customer Information, Complaint Management and Station Information

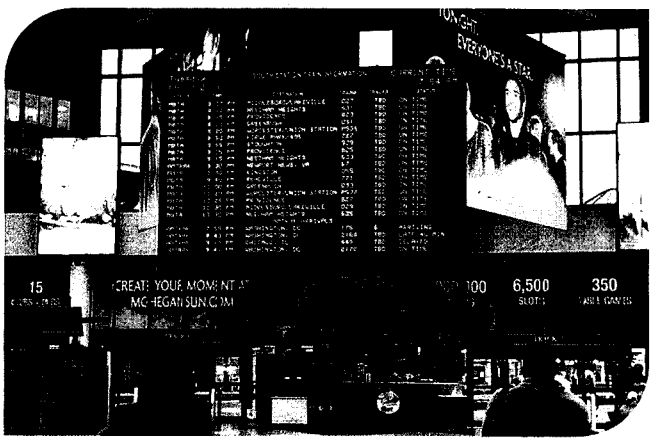
MBCR knows that every customer wants and deserves clear and immediate information; therefore, we provide the most relevant and prompt information possible to riders through a wide variety of channels (see Customer Service Section 7.A.1). Since technology alone is not always sufficient to keep customers informed in all situations, our Conductors also answer questions and provide helpful information

Smartphones have provided a thoroughly accessible and easy-to-use platform for the delivery of service information. The successful launch of MBCR's Conductor Companion application has armed train crews with an invaluable tool that provides real-time service updates and shows the speed, location and track assignment of every train on the railroad. This tool allows MBCR crews to better communicate delays, service interruptions and other information directly to customers.

Our new Customer Companion Smartphone app will give customers a single source for all of their MBCR interaction purposes. Currently customers rely on multiple apps to access travel planners, get real time service information or submit feedback. This new app will ensure customers receive the most updated schedule information, service notifications, departure track assignments and have the ability to provide direct feedback to the MBCR team.

At Back Bay, North and South stations, the Customer Information and Announcement System (CIAS) features both visual and audio information for riders. In 2006, MBCR partnered with the MBTA to introduce the CIAS system, which is operated by a team of dedicated customer service employees who are trained and qualified to deliver announcements at these major stations.

At outlying stations, customers receive GPS-driven, real-time information from the Passenger Train Information System (PTIS) through LED screens on platforms. Currently, personnel in the Dispatch Centers update information on PTIS systems by sending out relevant information related to service changes and delays. In 2014 MBCR will base a Customer Service Representative (CSR) in each Dispatch Center to provide a central source of service information for consistent, meaningful announcements and service alerts.



Quality station information helps passengers find their way

Complaint Management

MBCR's Customer Service department investigates and responds to all customer inquiries and complaints. As detailed in Customer Service Section 7.A.4, a strict quality assurance and measurement process ensures that all inquiries receive a response within five days and that every response is subject to a quality check by a manager to ensure it is appropriate, accurate and fully addresses all of the customer concerns. MBCR uses Parature, a web-based customer relationship management tool, to capture, track, resolve and measure all customer feedback. When feedback involves train personnel or service, MBCR Transportation Managers receive the comments on the same day for investigation, response and resolution. TMs also ensure employees receive appropriate recognition when customers communicate positive feedback or praise.

TMs participate in Meet the Manager events to interact directly with customers and hear their concerns and suggestions. These forums allow for direct feedback on all aspects of the passengers' experience. In addition, frequent TM presence riding trains provides opportunities for performance observation and manager visibility.

MBCR considers customer input and direct customer interaction a vital source of service monitoring data to help prioritize and focus improvement efforts and increase overall rider satisfaction. The Chief Transportation officer will be an active member of the new Service Improvement Leadership Team (SILT) that will meet quarterly to review and analyze customer feedback and develop action plans to improve the level of service to the customer, a key part of the annual Customer Service Improvement Plan.

6.A.14 Dispatching Services To Include Control Of All Trains

MBCR will continue to deliver the highest standards of safe and efficient movement of all trains and on-track vehicles within the Commuter Rail system. MBCR Dispatchers are qualified on all safety rules and regulatory standards, and receive rigorous training on their territories, systems, procedures and reporting requirements (including FRA-required logs and records).

New MBCR Train Dispatchers learn the characteristics of a railroad territory through trips on locomotives and track cars and visits to locations with qualified Train Dispatchers who provide operational context and critical institutional knowledge. To be qualified, students must demonstrate mastery of the territory they oversee, including physical characteristics, running times, location of meets and all applicable rules. Overall, our goal is to ensure that each new Train Dispatcher acquires the history and deep familiarity with their territories needed to become a highly skilled and qualified Dispatch employee on this unique and complex system.

MBCR Dispatchers are qualified on all safety rules and regulatory standards, and they receive rigorous training on their specific dispatching systems, procedures, and reporting requirements (including FRA-required logs and records).

Cooperative Approaches Across Departments and External Stakeholders

MBCR maintains longstanding relationships and daily communications with other Boston area rail operators (Amtrak, Pan Am, P&W, CSX and Mass Coastal) that dispatch segments of the network and/or operate trains under MBCR dispatch control. In many cases, these relationships are personal and have been fostered by MBCR's managers, resulting in a willingness to go beyond required arrangements to provide critical support and backup service. This unique cooperation among MBCR and other control centers is essential in resolving train conflicts and ensuring safe, reliable coordination of all activities.

MBCR's establishment of an Engineering Planning Team further strengthens the coordination between Engineering and Dispatch Offices to synchronize infrastructure maintenance activities and capital improvement projects during a single work block request. This enhanced coordination, and the resulting reduction in track outages, is discussed in detail in the Engineering Plan in Section 5.A.1. MBCR Dispatch has also worked with the Engineering Department to implement a process to provide redundant protection for workers on the ROW to ensure the safest possible performance of all track activity.

6.A.15 Operation of the Commuter Rail Dispatching Centers

Dispatch Personnel Support Decision-Making Infrastructure

With a "finger on the pulse" of their territory, experienced MBCR Train Dispatchers are on the front lines monitoring train, passenger, equipment and infrastructure status, and documenting, communicating and recording all regular and exceptional activities of railroad operations. From the Train Dispatcher, who monitors and controls his territory, to the Chief Dispatcher who manages all territories within the office's authority (North and South) to the Chief Transportation Officer and ultimately to our General Manager, the decisions and information flow freely and quickly up and down the chain of command. Through daily conference calls, pages and data input into TRMS-II, the dispatching offices provide critical information to MBCR's management team and to the MBTA to support immediate, short and long term operational decisions.

MBCR Dispatchers have the training and expertise to safely control all train movements

MBCR dispatchers also work with both track and signal department employees in the field to coordinate track car moves and signal department testing and maintenance. This includes issuing Form D's, foul time and removing tracks from service while keeping trains on schedule.

Customer Communication Using T-Alerts

To comply with MBTA requirements, we will establish Customer Service representatives in the Dispatch Centers to support and oversee delivery of all real time information, whether the message is going out via the T-Alerts system, the station LEDs or social media. These representatives will ensure accurate, timely and consistent messages across all systems.

MBCR also worked with CSX to install a "dispatcher track display monitor" in the South Side dispatch center, enabling our staff to more effectively monitor and update both station LEDs and T – Alerts for customers on the Worcester Line.

Dispatch Control Center Security

Due to the sensitivity and safety implications of information and decision making that takes place in the Dispatch Centers, all of our facilities (CROCC, CETC and CETC back-up) have a high level of security that restricts access to anyone without the escort of an authorized person. Card keys enabling entrance are only issued to individuals that have passed a rigorous homeland security screening.

Reporting

In accordance with all MBTA and FRA requirements, MBCR Dispatchers maintain and provide all logs and records of train movements, including Form D movement permits, grade crossing failures, and notes of extraordinary and unusual occurrences (ODRL 3.1-016). MBCR will also continue to complete daily reports for all trains operating under MBCR's dispatch control, indicating departure time from initial terminal, arrival time at final terminal, information about any delays or unusual circumstances occurring en route, identification of all crew and equipment used, and the number of customers carried.

6.A.16 Provisions of Rules and Safety Supervision Services

MBCR's culture and philosophy of Commuter Rail safety and security is discussed in detail in the Safety Section 2 of our Proposal. Comprehensive plans, procedures and policies outline the specific expectations for all MBCR employees, who adhere to strict rules and guidelines to ensure the safety of employees, passengers and the public. MBCR has been in full compliance with the MBTA's System Safety Program Plan (SSPP) and regulations since its inception, as well as FRA, FTA, MDTE and APTA regulations, standards and guidelines. MBCR's Operator Safety Compliance Plan (OSCP) establishes appropriate policies, procedures, rules and directives for MBCR Transportation.

The OSCP and Operator System Security Compliance Plan (OSSCP) ensure that security and emergency preparedness are addressed during all phases of system operation, including the hiring and training of personnel; the development of policies, rules and procedures; and coordination with the MBTA Transit Police, local public safety and community emergency planning agencies. MBCR's Zone Plan facilitates the effort by fostering local relationships and community involvement.

Safety and Security initiatives pertaining to Transportation: (Each is detailed in Section 2 of this Proposal)

- Workplace Safety Workshop
- NIMS Training and Certification
- Behavioral Based Safety Training
- "Stay Focused! Stay Safe!" workplace safety awareness campaign
- Emergency Response Plan Training, including emergency response drills
- FRA-approved Internal Control Plan for reporting accidents, incidents and injuries
- Initial and recurring safety training, in accordance with the MBTA's SSPP
- Dissemination of safety rules, orders, bulletins and procedures
- OSSCP that includes security and anti-terrorism awareness training
- Drug and Alcohol Policy and testing procedures to promote a workplace free from the effects of drugs and alcohol, as well as a treatment and assistance program
- AED and CPR certification, and emergency procedures associated with AEDs
- Confidential Close Call Reporting System (C^3RS)

MBCR's Transportation Department, with the support and guidance of the Safety Department is fully versed in all railroad safety best practices. Building on our outstanding safety record, we will continue to provide one of the safest Commuter Rail systems in the country.

6.A.17 Information Management, Performance Analysis and Reporting

Information Management

MBCR's Transportation Managers and Operations Planning team are engaged each day in supporting performance improvement and efficiency. Information management forms the backbone of our efforts, driven by performance monitoring and customer feedback data. With an integrated management approach to analyzing critical information, MBCR strives to optimize crew runs, train consists, equipment utilization, train schedules and other service dimensions, akin to an operational "Rubik's Cube." MBCR uses the TRMS-II, ORTEC, RTC and MBCR-developed spreadsheets to capture and visualize operational information and to form the basis of potential improvement scenarios. This planning environment relies on our information management systems and work processes to feed simulations and managerial decision-making.

MBCR's models and tools are maintained in a protected environment, with databases linking strategic and tactical scenarios to output for operating plans. In a controlled, "test and learn" environment, we test each plan scenario by putting it into actual operations and, at the end of the day, comparing results to the base case through delta analysis and pareto chart trends. The next day, we test a second plan and carry out the same analysis at the end of the day. MBCR models the results of the series of tests in a summation of all combinations to determine the best approach to its TSP and performance improvement initiatives.

Performance Analysis and Reporting

MBCR's principle means of performance analysis will be the KPI dashboard that rolls all reporting information into a summary of key metrics and trends that measure the performance and status of the Commuter Rail system and informs managerial planning and decision-making.

Management Focus on the Most Critical Performance Improvement Goals

MBCR tracks KPIs for Commuter Rail Service, focusing on Safety, Service, Equipment and Crew Availability and Customer Service. Our high level KPI dashboard (detailed in the Management Section 8) will provide snapshots and trends of these indicators for management attention and review as warranted. Within each department, including Transportation, we will measure our performance against internal targets that support and influence the organization's KPIs.

Within each department, including Transportation, we will measure our performance against internal targets that support and influence the organization's KPIs.

The Transportation chart on the following page lists the department-level KPIs that will enable managers to identify performance at the actionable level and implement strategies to improve each contributing component of performance. Transportation Managers can drill down into the data to diagnose contributing factors impacting performance. MBCR will supplement managers' collective insight and problem solving capabilities with time series monitoring or regression analysis to analyze trends and prioritize solutions. MBCR Transportation tracks KPIs to measure and improve consist compliance, crew compliance, employee safety, rule compliance, revenue collection and customer service categories.

In the following chart, we include 2012 "baseline" data from MBCR Safety reports, TRMS-II train delay and cancellation reports and Parature customer feedback data. The 2016 targets represent our Transportation team's internal assessment of improvement that can be achieved through our continuous improvement culture and the improvement initiatives described in the elements of this section. We are confident that, through careful attention on the most significant causes of train delays, customer complaints, and safety and rule violations, we can maintain steady improvement toward each of these critical targets.

Transportation Department KPIs

	Indicator	measure (unit) – monthly unless otherwise specified	2012 Baseline	2016 Target	Accountability
Safety	Employee Injuries (Reportable)	Accident Frequency Ratio (AFR)* (Baseline=2013)	2.51	1.38	Transportation Leadership, Zone Managers
	Employee Injuries (Non-Reportable)	Injury Frequency Ratio (IFR)** (Baseline=2013)	3.40	2.00	Transportation Leadership, Zone Managers
	Rule Violations	Number of Incidents	4	0	Transportation Leadership, Zone Managers
Service Delivery	OTP	# late trains due to transportation-related causes (including "other" causes previously excused)	179	156	Transportation Leadership, Zone Managers
		# cancelled/ annulled trains due to Transportation-related causes (including "other")	49	36	
	Consist Compliance	% of trains that meet train specified capacity requirements	99.6%	100%	Transportation Leadership, Zone Managers
	Crew Compliance	% of trains with proper staff to passenger ratio	99.36%	99.42%	Transportation Leadership, Zone Managers
Customer Experience	Train Crew Courtesy and Appearance	# Customer Complaints	40	27	Transportation Leadership, Zone Managers
		# Positive Customer Comments	14	20	
		Mystery Rider Compliance	NA	100%	
	Quality of on board announcements	# Customer Complaints	12	8	Transportation Leadership, Zone Managers
		Mystery Rider Compliance	NA	100%	
	Fare Collection and Verification	# Customer Complaints	27	18	Transportation Leadership, Zone Managers
		Mystery Rider Compliance	NA	98%	

**AFRs are determined by multiplying the number of reportable injuries by 200,000 and dividing that number by the total number of hours worked.*

*** IFRs are determined by multiplying the number of reportable and non-reportable injuries by 200,000 and dividing that number by the total number of hours worked.*

6.B Best Practices Support

MBCR's innovation concepts have been developed using the actual experience of operating and maintaining the MBTA Commuter Rail Service over the past ten years. Our extensive knowledge of the infrastructure, equipment, and workforce give us the ability to propose credible innovations and best practices that are implementable with a high probability of success. Furthermore, our experience informs us of the feasibility of making significant work changes, and provides practical knowledge of what improvements can be implemented immediately, versus those that can best be accomplished over time.

Initiative	Section	Category	Validating Information
Snow Management Plan (updated annually)	6.A.1	Best Practice, Beneficial to MBTA Customers	Allows for refinements to our plan that outlines preparation and procedures to preserve safe, timely service during and after snow and severe weather events.
Automation of crew management tasks	6.A.2	Best Practice, Cost Efficient	ORTEC Harmony's Employee Web Portal and Bid Module will enable employees to view their schedules, leave balances, bid on jobs, request time off, and complete other tasks electronically.
Use of ORTEC modules to model operational scenarios, crew and equipment assignments, schedules	6.A.2	Innovative, Best Practice, Beneficial to MBTA Customers, Cost Efficient	Helps managers evaluate scenarios for balanced staffing to meet ridership demand on all peak and non-peak runs. Assures that we have the right staffing at the right times, with optimal efficiency.
Automated Passenger Counting tool	6.A.2	Innovative; Beneficial to MBTA customers; Cost Efficient	This tool will allow for accurate collection of data regarding boarding and alighting at stops, vehicle passenger loads between stops, vehicle running and dwell times, and evaluation of stop, trip and route load analysis.
Equipment Utilization Analysis	6.A.2	Best Practice, Cost Efficient	The tool provides a basis to analyze potential opportunities for more revenue service through increased usage and productivity of existing equipment.
Train Consist Optimization	6.A.2	Innovative, Beneficial to MBTA Customers, Cost Efficient	The standardization process, in conjunction with analysis of ridership on each line, helps MBCR Managers identify areas where we can eliminate or reassign coaches, while still providing adequate seating capacity (consist compliance) and a comfortable load factor.

Initiative	Section	Category	Validating Information
Conductor Companion (complete implementation)	6.A.3	Innovative, Beneficial to MBTA Customers	iPhone app uses a satellite function to show the speed, exact location and track assignment of every train on the Commuter Rail system. It relays all T-Alerts and pager messages for the Commuter Rail and subway system, enabling MBCR crews to better communicate delays, service interruptions and other information directly to customers as events unfold.
JustRide™ credit/debit card fare transaction system and ticket scanning technology	6.A.4	Innovative; Beneficial to MBTA customers; Cost Efficient	Maximizes revenue collection, limits fraud potential and increases ticket purchase options and convenience for our customers.
System Dynamics Model	6.A.6	Innovative, Best Practice, Beneficial to MBTA Customers, Cost Efficient	Management approach used successfully across a range of industries dealing with complexity, such as manufacturing and utilities, as well as other railroad operations. http://www.norbridgeinc.com/industries/case9_transport_sysdyn.htm
Training Simulators for Locomotive Engineers	6.A.7	Innovative, Best Practice, Beneficial to MBTA Customers, Cost Efficient	Simulators provide hands-on training for Locomotive Engineers. These simulators will result in skills to improve train handling, schedule adherence, rule and signal compliance, and mechanical troubleshooting.
Manager of Quality/Organizational Excellence Certification for Transportation Management	6.A.7	Best Practice, Beneficial to MBTA customers	Demonstrated commitment to refining leadership skills, quality management techniques, and use of technology for data-driven analysis and decision-making.http://prdweb.asq.org/certification/control/manager-of-quality/index
Volpe Center FRA Research on Distraction and Fatigue-Mitigation Strategies	6.A.7 and Appendix 1	Innovative; Beneficial to MBTA customers, Best Practices	Locomotive Engineer participation in this cutting-edge research will result in tools to recognize signs of workplace distractions and prevention techniques. http://www.metro-magazine.com/news/story/2011/12/veolia-s-elsmore-to-lead-volpe-institute-study.aspx

Initiative	Section	Category	Validating Information
RTC railroad simulation to propose and test impacts of schedules, service and operating scenarios	Appendix 3	Innovative, Best Practice, Beneficial to MBTA Customers, Cost Efficient	Fully calibrated model enables simulation of the whole Commuter Railroad network and the ability to test the operating impacts of various infrastructure changes and operating scenarios prior to implementation. http://berkeleysimulation.com/rtc.php
Zone Plan	Appendix 4	Innovative, Beneficial to MBTA Customers	Dedicated managers and staff provide oversight for each zone. Fosters community relationships within each zone, ensuring closer management of facilities and crew, more reliable emergency preparedness and more effective prevention of, and response to, service disruptions.

Summary

For MBCR, evolving our culture means increasingly utilizing data and technology to serve our customers and continuously improve the passenger experience. Transportation is at the heart of our initiatives to gather reliable ridership information, to model train operations and systems constraints, and to optimize the system's capacity through quality management approaches for the MBTA system. Our goal is to achieve more efficient and lower cost crew utilization, consists that more closely match demand, and timely scheduling of operations and maintenance activity. Our plan for the continued expansion of automation and technological capabilities, coupled with training, empowers our management team to use data for positive and proactive change.

At the same time, MBCR understands that our business is all about people: employees, customers and the public living in the communities we serve. Through our experienced Transportation Management, Zone-based organization and commitment to quality employee training programs, MBCR is prepared to meet the needs of each and every Commuter Rail customer, with an emphasis on courteous, helpful interactions at all times. Conductors and ACs will leverage new handheld technologies to bring greater efficiency to their core responsibilities of selling and verifying passenger tickets on-board and communicating the latest service information en route.

MBCR's experience is a crucial differentiator. Our Transportation leadership and dispatch personnel have years of practice in safely operating the MBTA's uniquely complex Commuter Rail system. Our employee training programs, incident management procedures and safety protocols have evolved based on what we have learned from each day's operation, as well as customer and employee feedback, and daily discussions about how to make the service better. We are deeply committed to continuing to listen, learn and leverage our data and experience to make the MBTA's Commuter Rail among the best in the nation.

Section 7 -
Customer Service Plan

Section 7

Customer Service Plan Evaluation Factor Information

MBCR

Section 7 – Customer Service Plan Evaluation Factor Information

Overview

1. MBTA Objectives

A. Ability to maximize customer satisfaction measured by MBTA-approved metrics

B. Continuous improvement of messaging regarding customer and public safety

C. Innovation in the provision of all regular and special service information

We share the MBTA's vision of providing the best customer service in the rail industry and have designed a blueprint to make that vision a reality. We have used the bid process to invigorate our thinking to deliver strong, new ideas and fresh approaches to the MBTA.

Over the past 10 years, we have dedicated ourselves to understanding and addressing the needs and concerns of our riders. We have systematically listened and introduced improvements based on their comments through numerous communication channels.

Our proposed initiatives will further improve service quality, revolutionize on-board ticketing, implement a strong ridership building plan, and launch new mobile apps with real-time train arrival information to stand alone and become part of mTicket.

Residents of Greater Boston aspire to move freely and easily, and to have a seamless and pleasant travel experience. Their core expectations include respect for their time, safe, reliable, punctual service, easy ticketing and accurate information at their fingertips – all provided by helpful, well-trained staff. Customers also expect efficiency in fare collection, and well-managed service disruptions and Special Event Service.

We know Boston. MBCR's expanded vision for customer care builds on the extensive knowledge we have gained from 10 years of listening and responding to our customers.

They want their Commuter Rail system to be operated by a skilled and transparent management team. We are that team.

One of our most important strategic initiatives is to enhance on board ticketing with the next phase of JustRide™. Customers will be able to buy tickets on board with a credit or debit card, purchase online, or use the mTicket app. (Details in the Transportation Section 6.A.4)

Our blueprint for delivering a superior customer experience marries current, successful activities with forward-thinking initiatives as described on the following pages.

2. MBCR Key Achievements

Over the past decade we have been leaders in the paradigm shift that is taking place in our industry – from an operational philosophy to a customer service philosophy. Our team continuously strives to provide uncompromising customer satisfaction and embeds this philosophy in every customer interaction – whether face-to-face, on the phone, through posters and information, or via electronic communication. We are dedicated to consistently delivering on all of the promises in the MBTA Customer Bill of Rights as demonstrated by our key achievements:

We Provide Accurate, Timely Information

- We disseminate accurate and timely information using multiple channels, including T-Alerts and social media.
- We have improved schedule information in stations and online, and plan to install new poster displays at all stations.
- Our ticket agents are subject matter experts in Commuter Rail, the MBTA network and mTicket, aptly assisting customers and providing friendly service and minimal wait times.
- We have developed a large customer database of 17,000 riders who signed up to receive RailMail emails with updates on their lines.

We Educate the Public on Safety and Security

- We have produced educational videos for riders including Safe Boarding Practices and Grade Crossing Safety.
- Other public safety initiatives include: posters; LED messaging; safety information on schedules; brochures; a visible safety section on our website; and support of "See Something, Say Something."
- Our school and community outreach programs introduce young people and customers with disabilities to the railroad, equipping them with the tools to use Commuter Rail safely.

We Ensure Quality Service

- We have achieved our contractual On-Time Performance goal for 8 of the past 10 years.
- MBCR has consistently increased customer satisfaction and decreased comments. Over the past five years, comments and complaints have dropped from 9,700 to less than 5,500 annually, the lowest in our history. We have low levels of complaints compared to the industry norm – in 2008 we received one complaint per 3,934 passenger trips, in 2012 we received one complaint per 6,934 passenger trips. (See chart in Section 7.A.4)
- Data from our electronic customer satisfaction surveys shows that for the past four years our overall performance has been rated at 88%; and customer opinion of our fare collection and overall cleanliness have achieved 95% and 98% respectively.

- We have developed a wide variety of training programs that are highly rated by participants, have helped set the standard for MassDOT University's training programs, and have produced well-trained, professional front line staff.
- We proactively collect performance data, gather customer feedback, conduct daily performance monitoring meetings, and review results of observations and testing – all focused on identifying, tracking and resolving issues.

We Listen and Understand Our Passengers' Expectations

- Our Parature customer feedback system has enabled quick and professional responses to customer concerns. We acknowledge 100% of customer comments within 12 hours and respond to and resolve 96% of all comments within a five-day period, achieving our and the MBTA's goal.
- We have used customer feedback to drive continuous improvement across all departments. Key examples include the multi-department effort that improved air conditioning reliability to over 99% for the past several years, improvements in real-time communication achieved by bringing T-Alerts in house, and the development of our innovative Conductor Companion™.
- We conduct regular passenger surveys and focus groups, and over the past year have conducted a major Mobility Survey™ and New Rider Research (results are detailed in the Supplemental Appendix 5 – Customer Service).
- We talk to customers every day on trains, at stations, by phone and via social media. We listen and work diligently to incorporate feedback to improve service.

We Are Skilled in Special Event Service

- Our seasoned team has developed plans and procedures that have proven effective in delivering Special Event Service dozens of times. Our systems maximize fare collection, ensure fraud prevention and effectively manage crowds.
- We have skillfully managed events with more than 200,000 additional riders, with minimal complaints, zero safety issues and superb coordination with law enforcement agencies and the MBTA.
- The Buy Before You Board and Flat Fare programs have significantly increased revenue from Special Event Service. For example, during the Boston Bruins 2011 Championship Parade, our Flat Fare tickets generated $305,000 in additional revenue.

> *Boston Globe Editorial, April 12, 2013*
>
> **"...MBTA's Commuter Rail system is running an extra nonstop train Sunday night...for the benefit of bicyclists making an annual midnight ride from Hopkinton into Boston on the marathon route. The special train comes as a welcome sign that the T and contractor Massachusetts Bay Commuter Rail can respond in timely, creative ways to service customer needs."**

We Manage Disruptions Well

- Our highly experienced Customer Representatives are on-site during planned and emergency service disruptions. This has made a major difference in ensuring that passengers get timely, accurate and useful information.
- We send real-time T-Alerts on behalf of the MBTA, which keeps information flowing quickly and efficiently. This enables passengers to alter and update their plans as needed.
- We use email alerts, press releases, Facebook, Twitter, station information posters, LED messaging and downtown station announcements to notify our customers in advance of planned service disruption.

3. MBCR Key Future Commitments

MBCR is dedicated to a future in which we continually evolve the service with innovative improvements to deliver a system that our riders, the communities we serve and the MBTA are proud to embrace. We operate trains, but our business is people, and our proposed initiatives reflect our continual commitment to methodically and systematically improve the customer experience, to satisfy current riders and attract new riders that reflect the diverse communities we serve.

Many of our future commitments are in response to the MBTA's RFP requirements. We have also included a number of innovative initiatives that are beyond the requirements of the RFP and are noted as such.

Please Note: *This "T light bulb" icon will be used throughout this section, and the proposal, to identify our proposed innovations for the next contract period.*

Our goal with the innovations described here is to make every ride safe, easy and friendly, to continually improve quality to earn riders' repeat business, and exceed the promises in MBTA's Customer Bill of Rights.

Growth in ridership and revenue can only be realized by providing top quality experiences at all customer touch points and continuously improving service. Every trip, every customer interaction, every training session, every activity we undertake reflects our dedication to providing a superior customer experience.

Our future commitments and innovations included in the proposal are highlighted below and will serve as the basis for the Customer Service Satisfaction Plan (CSSP) detailed in section 7.A.10.

We Will Improve Passenger Information

- Provide higher levels of customer information through a range of channels that will allow customers to more effectively plan their trips. This includes Twitter, Facebook, SMS, RailMail, T-Alerts, our website, QR codes, in-station information, new apps and new channels as they emerge.
- Continue to offer top quality information and ticket sales in stations. Our Ticket Agents serve as travel experts, advising passengers on how to ride the entire MBTA system, and on mTicket.
- Add Customer Service Representatives to the Dispatch Center to ensure consistent, accurate and timely information across all channels during all hours of operation.
- Implement a rigorous program to educate new riders on 'How To Ride Commuter Rail' using Customer Companion, YouTube, new and aggressive promotion of mTicket, new brochures and improved content on our website. (Details in Appendix 5 – Customer Service)
- Improve passenger information at all stations with new poster display units and improved content. The information will be relevant to the line and local area. (Details in Section 7.A.1)
- Develop and launch a new Customer Companion app that will function as the authoritative smartphone information resource for Commuter Rail riders and offer real-time train arrival information. We will work with the MBTA to offer it as a stand-alone app as well as integrating it into mTicket. (Details in Section 7.A.1)
- In the future, individual passenger profiles from mTicket and other MBCR and MBTA data sources will enable personalized communications. For example, we could thank a regular rider, apologize to everyone on a late train, extend a "buy one, get one free offer" to an occasional rider, invite a customer to take a less crowded train, or complete a real-time trip evaluation. (Details in Section 7.A.1)

We Will Enhance Safety and Security Messaging

- Increase Public Safety outreach via multiple methods including brochures, posters, videos, MBCR website and pocket schedules.
- Customer Service will continue to conduct training on Terrorist Activity Recognition and Response. This course provides security and anti-terrorism awareness training to MBCR employees who have direct contact with the public/system and promotes processes for identifying and reporting potential pre-attack terrorist activity.
- Continue regular station visits to check safety and ADA compliance for criteria such as elevators in service, tactile edging and audible announcements.

We Will Elevate Service Quality

- Use all customer feedback from Parature, the new Mystery Traveler program, social media, MBTA's customer satisfaction surveys, and verbal customer feedback to front line staff work as a cross departmental team to drive improvements in our CSSP - Customer Service Satisfaction Plan
- Establish a Service Improvement Leadership Team (SILT) with department heads or deputy directors focused on finding the root cause of service issues, and expeditiously and effectively implementing solutions as part of the Customer Service Improvement Plan (CSIP).
- Work with other departments to implement MBCR's strategic approach to Quality – "Plan, Execute, Monitor, Assess," and build our CSIP and CSSP to be deeply rooted in these principles.
- Rigorously manage our Key Performance Indicators (KPIs) to ensure superior performance in every aspect of the customer experience including: on-time trains; accurate, timely information; clean trains/stations; courteous, well-trained, visible staff on trains and in stations.
- Expand on our already robust Customer Service training with the development and delivery of training programs related to effective on-board announcements, fare collection best practices, enhanced safety and security awareness, and providing service beyond expectations to our passengers with disabilities.
- Continue our close, effective working relationship between all MBCR departments to jointly focus on the key drivers of customer satisfaction including improved reliability, punctuality, customer communication and staff skill.
- Enhance our superior Lost & Found performance by creating a new web-based tool enabling customers to enter information and describe lost items 24/7.
- Partner with Masabi, subject to agreement with the MBTA, to offer the next step of JustRide and build on the success of mTicket. This will include on-board credit card purchases, web-based print-at-home ticket purchase options, and the generation of extensive information on ridership patterns.
- Enhance our relationship with riders by creating a Commuter Rail LAB (Listen, Advise, Belong) via an online portal to get their input on new initiatives/service.
- We propose to review and update the uniforms that identify our Conductors and Ticket Agents as Commuter Rail personnel. We intend to extend this uniform to our Revenue Team and Locomotive Engineers. With the agreement of the MBTA we will create refreshed branding for uniforms of all front line Commuter Rail staff, making them easily identifiable to our customers.

We Have Developed Formal Plans to Generate Revenue

The following two initiatives to build revenue go beyond the requirements in the RFP and are Improvement Proposals to be reviewed with the MBTA. These are fully described in Supplemental Appendix 5 - Customer Service:

- Introduce our comprehensive marketing program to attract new riders and generate revenue. We have developed a formal plan with Hill Holliday, a leading Boston advertising agency, and propose to implement it by partnering with the MBTA.
- Launch the Purple+ Loyalty program and app that will allow passengers to accrue points for the time spent riding Commuter Rail and exchange points for rewards.

The following initiatives are included in our proposal and are described in Supplemental Appendix 5 – Customer Service:

- Deploy Veolia's proprietary Genius system to analyze ridership trends including the effect of changes in employment rates and other economic indicators, the impact of marketing programs, and service and fare changes.
- Expand our education of new riders to provide clear information on "How to Ride" through a variety of channels.

Day-In-The-Life *of* MBCR Customer Service

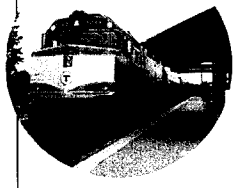
5:30 am
Ticket Offices open, Agents begin to sell tickets, and provide commuting advice to passengers.

7:15 am
Customer Service Manager on platform at Back Bay greets customers and answers questions during morning commute.

9:00 am
Customer Service managers attend Daily Operations Call with multiple departments to review morning peak.

10:30 am
Customer Service Director conducts a meeting with multiple departments to plan upcoming Special Event Service.

12:00 pm
Customer Service Representative conducts Station Safety Audit at outlying stations.



2:00 pm
Chief of Customer Service reviews results of Mystery Traveler survey with GM and senior team.

3:00 pm
Chief of Customer Service attends second Daily Operations Call with multiple departments to prepare for afternoon peak.

4:00 pm
Transportation Manager and Chief of Customer Service review recent customer feedback about Conductors.

5:00 pm
Customer Service Manager sends RailMail update to Haverhill Line passengers regarding upcoming track outage.

7:45 pm
Conductor assists a customer who has mobility challenges.

5:30 AM — **NOON** — **10:00 PM**

6:15 am
Customer Service Specialist reviews all new customer feedback from prior day and applies correct codes in Parature system.

7:00 am
Ticket Agents open Lost & Found Offices and begin to track lost items.

8:30 am
Customer Service Manager delivers training session to 30 conductors.

10:00 am
Customer Service Specialist hangs informational posters at a station.

5:30 pm
Customer Service Manager reviews customer feedback & approves release of responses that meet MBTA and MBCR standards.

4:40 – 6:30 pm
Customer Service Rep. in Dispatch Center monitors T-Alerts & Twitter during evening peak.

6:30 pm
Customer Service Specialist prepares updates for schedules to be posted at stations in the near term.

9:00 pm
Customer service team is on site to coordinate bus service during planned track outage.

MBCR

Elements of the Customer Service Plan

7.A Customer Service Plan

We understand that customer service is absolutely fundamental and our entire proposal is underpinned by a resolute and unmitigated focus on quality customer service. Our specific plans, initiatives and programs follow below:

7.A.1 Accurate and Timely Public Information

Today's riders expect access to accurate, real-time information so they can use their personal time effectively and better plan their commutes. We have years of experience disseminating information to customers using the right channel, at the right time, with the right message. We provide and regularly update information via smartphone, websites, mobile sites, our avid use of Twitter and Facebook, as well as the more traditional methods of station displays and paper schedules. We alert the public about everything from schedule updates, to service disruptions, to Special Event Service and share our on-time and other performance statistics.

Continuing to improve customer information is a top priority for MBCR. Our Customer Service team is fluent in today's technologies and their potential for meeting customer expectations to make the MBTA's Commuter Rail system ever more accessible and user-friendly. We share the MBTA's commitment to high standards for customer information and to adopting future new technologies to better inform our customers.

We are committed to integrating new means of communicating with customers as they emerge, and partnering with the MBTA to maintain its leadership position in digital passenger information.

Station and On-Board Announcements

We have worked with our employees to consistently provide station announcements that are informative, easy to understand and delivered in a friendly and professional tone. Through a series of one-on-one training sessions we have elevated the quality of every announcement. All Customer Information Announcement System (CIAS) announcements at South, North and Back Bay stations are operated by designated, highly-skilled employees who have full access to real-time service information and the ability to keep customers properly informed. This system records every outgoing communication, allowing our management team to monitor performance and maintain announcement standards. We also provide additional customer advisory information to include safety and security messages and real-time train delay information.

> **"ATTENTION COMMUTER RAIL PASSENGERS: Based on current weather reports regarding Hurricane Irene, MBCR advises all customers of the potential for service delays, cancellations and/or temporary service suspension on all lines...MBCR advises customers to make frequent checks of service alerts/advisories on www.mbta.com for updated travel information before making travel plans..."**
>
> *Announcement used for Hurricane Irene*

The on-board Passenger Train Information System (PTIS) is monitored and operated from each Chief Dispatcher's office in the North and South Dispatch Centers. Once train crews have activated this system on board, automated announcements are made on the train and real-time arrival information is relayed to outlying station LED monitors. The Customer Service management team has the ability to monitor this system, as well as T-Alerts from their desks allowing them to monitor the information being given to our customers. Transportation and Customer Service managers consistently monitor all on-board announcements to ensure accuracy and appropriateness.

- Mechanical manages coach cleaning, and coordination and planning to ensure train sets are ready for service the next day.
- Engineering plans and manages station enhancements including additional signage, station cleaning before and after the event, installation of all temporary barriers and any additional lighting or ventilation requirements.

MBCR collaborates with the MBTA Operations and Transit Police to estimate the numbers likely to attend, anticipate the expected behavior of the attendees and optimize the plan for overall crowd control management.

This inter-departmental effort and our years of shared success and accumulated experience enable us to deliver very high levels of service to passengers and to MBTA, meeting every expectation at these important and high visibility events.

Post-Event Analysis for Continuous Improvement

Since each event has its own unique characteristics, we methodically review our performance to determine if further improvement can be made to the process. We conduct a formal cross-agency and cross-departmental internal debriefing after all events. We review customer feedback, our safety record, incident analysis, and all aspects of our performance, ensuring that we are continuously improving and enhancing the process.

MBCR believes there will always be opportunities to further optimize our performance. We plan to increase our use of advance communication channels such as Twitter, Rail Mail and Facebook to remind customers about upcoming events. We will use Customer Companion to enable customers to text us in real time allowing us to gather immediate feedback. We will evaluate new approaches to measuring service performance, ridership volume, and ticket sales using our JustRide ticketing solution.

Knowing that these events help increase revenue for the MBTA, for the upcoming contract term, MBCR will research opportunities to add to the list of Special Event Service by working with Boston's Visitors and Convention Bureau of which we are members, the Mayor's Office of Special Events, the Department of Tourism, Boston's Department of Cultural Affairs and local Chambers of Commerce.

7.A.4 Responding Promptly and Effectively to Customer Feedback, Complaints and Suggestions for Service Improvement

MBCR's Customer Service team has worked diligently to develop a relationship with Commuter Rail riders. This relationship is based on the ongoing dialogue we have established with the people we serve and their trust that we listen to their questions, complaints, compliments and ideas, and act on what we hear. Our systematic listening has lead to numerous improvements over the years, from revising the Winter Mobilization Plan, to taking T-Alerts in house for Commuter Rail information, to expanding service to accommodate participants in the Midnight Marathon Bike Ride.

We look forward to working with the MBTA in the new contract to formalize quarterly reports of feedback from our customers. These reports will become the basis of the Customer Service Improvement Plan. This requirement is perfectly aligned with our proposed Service Improvement Leadership Team (SILT) who will use the analysis of these reports to build and review action plans to improve service for customers on a continual basis.

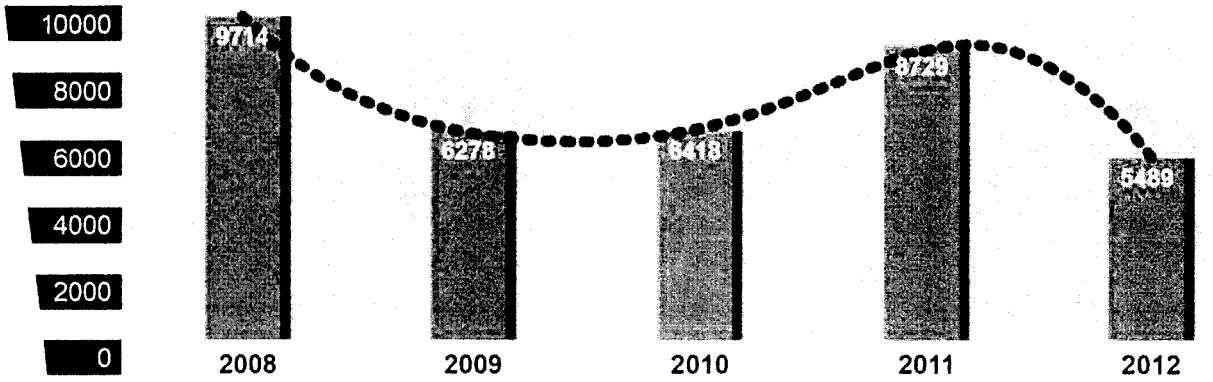
Responding to Customer Inquiries: A Core Strength

MBCR's Customer Service team revolutionized the process of collecting, investigating, responding and reporting of customer feedback. We operate a courteous and efficient process with strict quality

assurance protocols. We acknowledge 100% of customer comments within 12 hours and respond to and resolve 96% of all customer concerns and inquiries within five business days or less.

A major factor in this strong performance has been the deployment of Parature, our web-based customer relationship management tool. MBTA provided us with criteria and standards for feedback management in 2006, and since then we have met or exceeded all of them. The Parature system enables MBCR to capture, track, resolve and measure all customer feedback. Among other features, this system enables our Customer Service team to sort feedback across more than 10 primary and subcategories. Daily reports are generated on the number of concerns, highlighting the type of feedback by line. Outstanding items are discussed on morning operational calls.

Total Customer Correspondence for the Last 5 Years



As the chart above shows, Customer Correspondence has trended downward with the exception of 2011 where unusually large incoming inquiries/comments were triggered by record breaking snowfall in early February, plus MBTA's Hurricane Irene system shutdown, and changes in service guarantees. As a result, MBCR greatly improved its Winter Mobilization Plan and took responsibility for sending T-Alerts with information directly related to Commuter Rail service.

Sometimes a personal phone call or even a meeting is needed to talk through an issue with a customer. Managers validate all responses to all concerns and inquiries prior to sending them to a customer, to ensure that answers are appropriate, accurate and fully address all concerns raised. Parature provides the MBTA with full transparency and access to all customer correspondence, investigations, history and responses.

Special attention and consideration are given to feedback provided by our customers with disabilities, ensuring that prompt investigation and sensitive resolutions are afforded to accessibility issues or concerns. We will immediately notify the MBTA when an ADA, Civil Rights or DBE-related comment or concern is received.

All front line employees receive extensive training, and we regularly receive commendations recognizing employees for providing assistance beyond expectations to customers with disabilities.

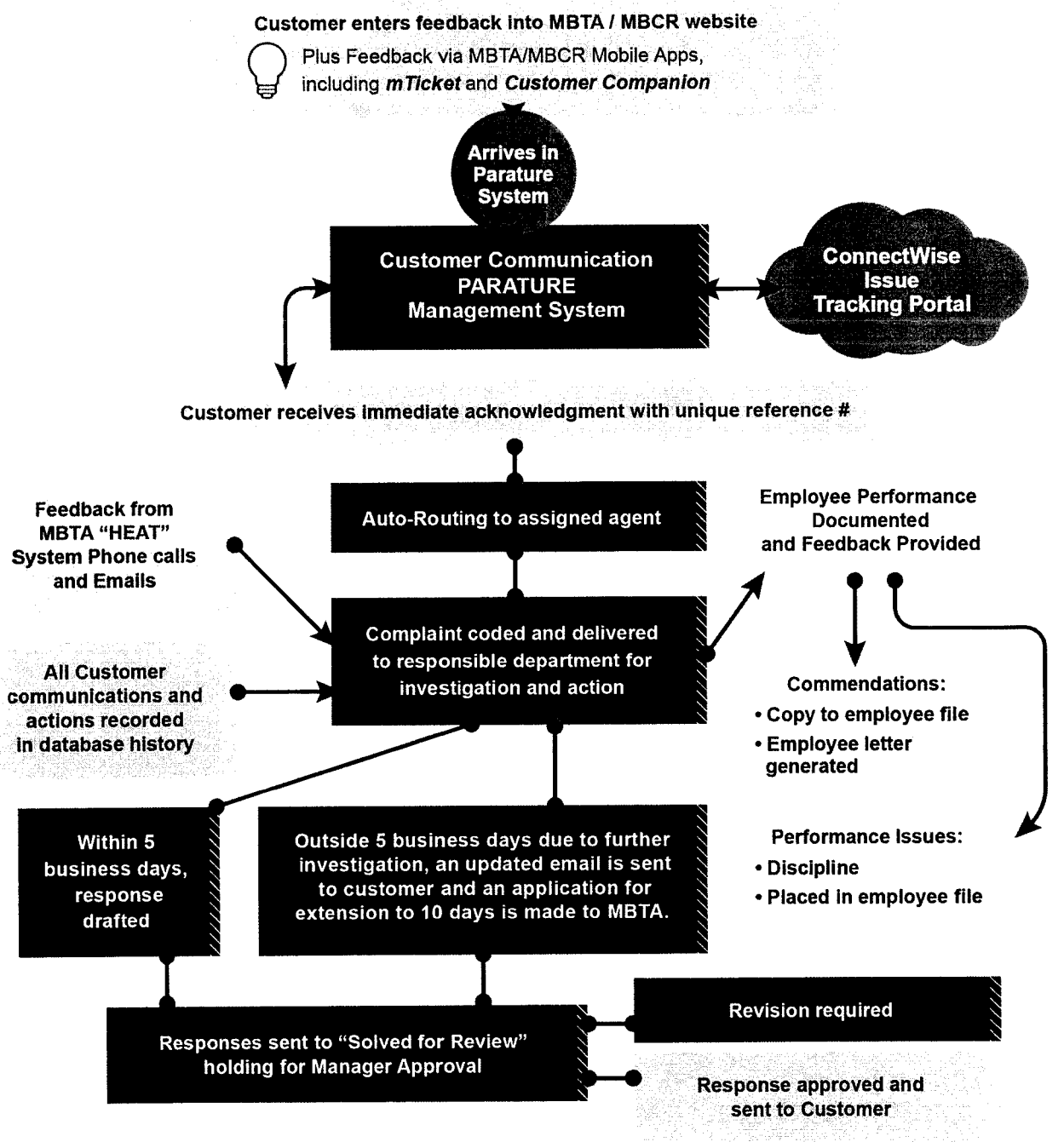
In October 2006, MBTA Railroad Operations requested that MBCR send responses directly to customers rather than the previous practice of drafting them for MBTA review and approval. This included responding to customer feedback to "Write to the Top" and "Feedback" sections of MBTA's website that had previously been managed by the MBTA. This was a solid vote of trust in our relationship.

Our customized Parature system enables our Customer Service team to efficiently capture, track, resolve and measure all customer feedback, while providing very timely and professional responses.

In the next contract term, we plan to implement a cross-departmental leadership team focused on further deepening our efforts to get to the root cause of recurring complaints and issues. SILT, our Service Improvement Leadership Team, will be an important component of our enhanced focus on Quality Assurance. We will bring consistent senior level attention to designing and implementing solutions to problems and will publicly track progress with a major focus on accountability. This is further explained later in the section.

MBCR's comprehensive customer feedback investigation and response process is described in the graphic below.

MBCR Customer Feedback Process

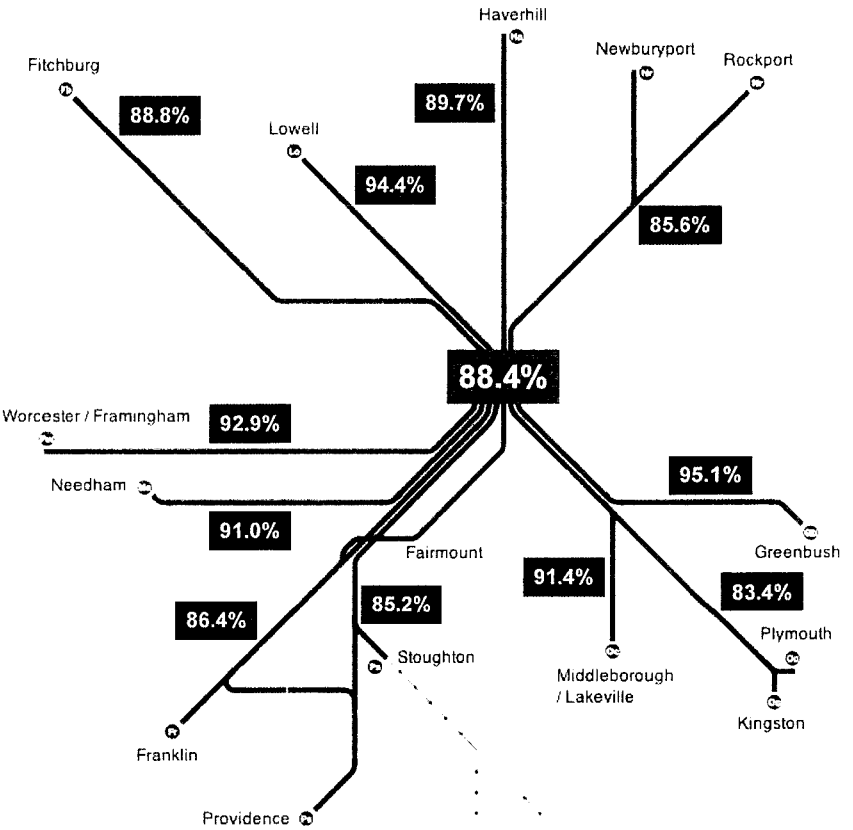

Customer enters feedback into MBTA / MBCR website
Plus Feedback via MBTA/MBCR Mobile Apps, including mTicket and Customer Companion
Arrives in Parature System
Customer Communication PARATURE Management System
ConnectWise Issue Tracking Portal
Customer receives immediate acknowledgment with unique reference #
Feedback from MBTA "HEAT" System Phone calls and Emails
Auto-Routing to assigned agent
Employee Performance Documented and Feedback Provided
Complaint coded and delivered to responsible department for investigation and action
All Customer communications and actions recorded in database history
Commendations:
• Copy to employee file
• Employee letter generated
Performance Issues:
• Discipline
• Placed in employee file
Within 5 business days, response drafted
Outside 5 business days due to further investigation, an updated email is sent to customer and an application for extension to 10 days is made to MBTA.
Revision required
Responses sent to "Solved for Review" holding for Manager Approval
Response approved and sent to Customer

Customer Interactions and Listening Across the System

In addition to our Parature complaint tracking system, MBCR receives customer feedback through many channels.

- **Front Line Employees** – On trains and at stations, our front line staff, Ticket Agents and Conductors receive feedback every day, and each is trained to be able to actively listen to the customer and respond effectively. They systematically pass on feedback to the Transportation and Customer Service teams.
- **Social Media** – MBCR's Customer Service managers actively monitor and continually respond to social media activity, including Twitter comments, Facebook posts, blogs, customer reviews from Yelp, Trip Advisor, Instagram and Pinterest. Additional information is in Section 7.A.7.
- **Meet-the-Manager Events** – We host these twice a year at the three downtown Commuter Rail stations, on trains and at key outlying stations. This program provides the opportunity for representatives of all departments to engage with our customers. These personal interactions allow us to gather important feedback and give customers the chance to get to know our management team.
- **Electronic Customer Satisfaction Survey** – MBCR conducts an online customer satisfaction survey bi-annually with a voluntary pool of regular riders from our large customer database. We ask them to rate core aspects of the service for five consecutive business days, and to rate our service performance including cleanliness, on-time performance, fare collection, comfort, announcements and more. The graphic shows the Overall Performance Index Score by line for 2012.

  Going forward, we will continue these practices and will also encourage passengers to use the new Customer Companion app to send us feedback in real time, and their input will be integrated and responded to via our Parature system.



2012 Overall Performance Indexes by Line

Customer Service Improvement Plan (CSIP)

To meet the MBTA's requirement for an Annual CSIP, we will compile and submit quarterly reports as requested. However, we feel that to maximize the impact and timeliness of the CSIP, our recommendation is to make the plan dynamic by updating the CSIP on a quarterly basis, documenting the progress we are making on each service improvement project. New service improvement projects will be added as new trends are identified from customer feedback. We will share both feedback and updates to the CSIP quarterly with the MBTA.

daily meetings, and discussing results of observations and testing. We conduct regular passenger surveys and focus groups, and over the past year have conducted a major Mobility Survey and New Rider Research (details in Supplemental Appendix 5 – Customer Service).

Ticket Office Performance: A Positive Track Record

Ticket sales and revenue collection are an essential part of operating the Commuter Rail service, both for customers and for the MBTA. We sell all MBTA fare media, Special Event Service, CapeFLYER and Amtrak tickets. Over the years, MBCR has been very successful at reducing wait times at our ticket windows. Over time, we have systematically improved the quantity and quality of our interactions at ticket windows. During an average month, MBCR sells more than 4,000 tickets per day at an average of nearly $30 per transaction.

In addition, our Ticket Agents serve as an information resource to passengers, helping them navigate the MBTA's transit system, providing fare and ticketing information on multiple modes, and serving as travel ambassadors. We regularly receive compliments on their friendly and helpful demeanor and their performance is monitored monthly by our managers.

MBCR monitors average wait time as well as transaction time at our ticket windows. The Customer Service Department uses these and other performance indicators to make informed decisions about ticket office staffing and when to open additional windows. Today, 95% of customers wait less than four minutes at peak periods. Performance data show that our agents are routinely able to complete two to three transactions per minute, while ensuring that each customer's questions are thoroughly addressed. While we are quite satisfied with our performance, we have set goals for improvement going forward.

At North, South and Back Bay stations, 95% of passengers wait an average of less than four minutes during peak periods at our ticket windows.

Daily Service Monitoring: Keeping Our Promises

MBCR holds two operational calls daily; the first is to review peak morning service and the second is to discuss our readiness for peak afternoon service. MBCR will continue this monitoring process under the new contract. All of MBCR's operating departments plus members of the MBTA team participate in these calls. Prior to each call, the Train Resource Management System (TRMS) generates a service report detailing the prior 24 hours' activity. This report is used to review current and expected operational decisions. Managers discuss operational status in detail and identify late trains and root causes on these calls.

We recognize the vital importance of on-time performance. Managers discuss incidents impacting the morning commute, ongoing track work projects and Special Event Service every day, ensuring that all parties are working together to minimize disruptions. Managers immediately act on information to remedy ongoing situations when possible, such as a third-party dispatching delay or a mechanical issue, by working with those responsible to protect our trains' on-time arrival. All daily calls trigger immediate fixes and/or longer-term process improvement initiatives to address operational issues that may impact Commuter Rail safety and punctuality of trains.

Monitoring On-Board Fare Collection and Customer Interaction

Conductors are tasked with the safety of our customers and trains, the collection of fares, interactions with our customers and providing customer information. These employees are under constant scrutiny by every rider on our trains, and if they are not performing their duties properly, our customers tell us about the experience. The detailed measurement and use of benchmarking

7.A.6 Performance Analysis and Reporting

Our performance is measured on a number of levels – quality of the customer experience, on-time performance, safety, equipment reliability, ridership and revenue. The Customer Service team is constantly reviewing, evaluating and implementing initiatives that focus on improving riders' experiences. Some of our primary vehicles for analyzing and reporting are described below, including our KPIs. We, of course, monitor, analyze and report on other aspects of our performance, which were described in Section 7.A.5. The Customer Service Department measures itself according to the KPIs in the following table:

Customer Service Department Key Performance Indicators

	Customer Service Indicator	Measurement	2012 Baseline	Target 2016	Accountable
Service	Onboard Announcements/PTIS	Mystery Traveler	None	90%	Chief of Customer Service
		# of Comments Received Annually through Parature	153	Reduce by 7% Year over Year	
	T-Alerts and Station LED Messages	Mystery Traveler	*baseline after NTP*	90%	
		# of Comments Received Annually through Parature	86	Reduce by 7% Year over Year	
Customer Experience	Customer Comments	# of Comments Received Annually through Parature	5,489	Reduce by 7% Year over Year	Chief of Customer Service
		Reduction in Complaints from Customers w/Disabilities	30	5% Reduction each year	
		Response Time within 5 days	96%	97% in 2016	
Performance Improvement	Customer Wait Time to Point of Sale	Minutes in Line	4 min peak	3 min peak	Ticket Office Managers
	Reduction in Negative Feedback about Ticket Office Employees	Customer Feedback/ Parature	15 comments	5% Reduction each year	
		Mystery Traveler Survey, Manager Monitoring	None	95%	
	Revenue Collection	Advance Revenue Collection Teams	None	Increase Year over Year	Transportation Managers

Customer Surveys: Formally Assessing our Performance

MBCR conducts an electronic Customer Satisfaction Survey bi-annually with a voluntary pool of regular riders who are asked to rate the service for five consecutive business days. This snapshot of our regular customers' experiences has been an important source of ongoing information on our performance from their point of view. We welcome the MBTA's plans to conduct customer satisfaction surveys as part of the new contract term and offer our and Veolia's experience to assist these efforts. Veolia has developed a rigorous methodology for customer satisfaction surveys and has executed many surveys throughout its transit and rail properties both internationally and in the U.S., including Nassau County in Long Island, New York and the Regional Transit Authority in New Orleans, Louisiana.

Ticket Office Audits: Ensuring our Strong Results Continue

Customer Service managers audit ticket offices monthly to compare transactions with revenues. This quality control measure has proven effective and will continue under the new contract. The Ticket and Revenue Accounting Control (TRAC) system was designed by MBCR's Information Technology Department and records all agents' ticket sales and revenue received including Conductor remits, cash, credit card balances and commuter check balances, while monitoring overages and shortages and the number of transactions. The Retail Sales Terminal (RST) is MBTA technology that processes blank tickets, prints them with a time and date stamp and, along with TRAC, stores information about the quantity, types, zones and fares (student, regular, senior, etc.) that were purchased. TRAC generates detailed reports broken down by agent, payment type, and ticket type, providing valuable data on ridership. Further information is contained in Transportation Section 6.A.11.

7.A.7 Integrating New Technologies and Work Practices

MBCR's Customer Service Department is no stranger to innovation and, working in partnership with the MBTA, has had many successes. Working in partnership with the MBTA, we intend to bring all the innovative ideas in this proposal to our customers for increasing ridership, improving customer satisfaction and communication and, in the long term, increasing fare revenue. The table on the following page highlights our successful history of technology integration and improved work practices throughout the current contract term, and offers an at-a-glance summary of proposed innovations for the next three years. All of these programs are detailed throughout this proposal.

Technology changes quickly. What is cutting edge today could be outdated tomorrow. We intend to move with technology to support and bring ideas to the MBTA to ensure that the Commuter Rail service remains an industry leader in this area.

MBCR Projects – Integrating New Technology, Improved Work Practices and Information Management

Current Initiatives	Year	Integration of Technology	Improved Work Practices	Improved Information Management
Lost & Found Database	2003			
Ticket Revenue Accounting Control (TRAC)	2003			
Parature	2006			
Retail Sales Terminals	2006			
Customer Info Announcement Systems (CIAS)	2008			
RailMail	2008			
Online Passenger Monitor Survey	2010			
Digimind Social Media Monitoring	2012			
Conductor Companion	2012			
mTicket	2013			
Future Initiatives	**Year**	**Integration of Technology**	**Improved Work Practices**	**Improved Information Management**
Customer Companion	2014	●		●
Genius Software for Ridership Analysis	2014	●	●	●
JustRide Ticketing (next phase of mTicket)	2014	●	●	●
Mystery Traveler Survey	2014	●	●	●
New Lost & Found Web Interface	2014	●	●	●
Commuter Rail LAB	2014	●	●	●
Purple+ Loyalty Program *(Improvement proposal subject to agreement from MBTA)*	2015	●	●	●

7.A.8 Information Management

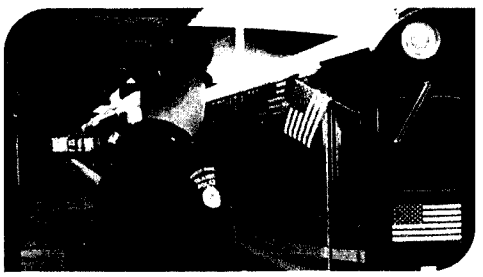
As noted in the preceding table, information management is an integral part of many of the initiatives we have implemented. The technologies that we employ provide multiple benefits; they improve the customer experience but also provide valuable data that can be analyzed to help identify trends, determine ridership behavior, and reveal successes or gaps that need addressing.

Strong Community Outreach

Since its inception, MBCR has been actively involved in giving back to the community through volunteer work and hosting community events that enhance the identity of the MBTA and MBCR, while making positive contributions to Greater Boston. Our events have been recognized and very well received, have generated significant positive press and have built strong relationships with non-profits and community leaders. MBCR will continue its commitment with the most impactful events and will add additional events as opportunities arise. Following are some outreach events that MBCR has coordinated and managed on behalf of MBTA:

Gold Star Memorial Coach Travels Around the State

At MBCR, we honor and remember our fallen heroes from Massachusetts in a very special and unique way. Premiering Memorial Day 2012, we designed and wrapped a train coach featuring patriotic stripes and bearing gold stars, each star dedicated to a fallen hero. Every star displays the name, rank and branch of service of each and every Massachusetts man and woman involved in Operation Iraqi Freedom and Operation Enduring Freedom who was killed in action in proud service. We collaborated with the Massachusetts Department of Veterans' Services in all aspects of this project.



"We are humbled that Massachusetts Bay Commuter Railroad has chosen to create this in honor of all of the fallen of our Commonwealth. You have our sincere thanks that our heroes are not forgotten!!"

Coleman Nee, Secretary of Massachusetts Veterans' Services

To launch the train, we held a special ceremony with the MBTA and MassDOT, to honor the heroes and Gold Star Families. This mobile tribute has been moving across the state for ceremonies in many locations. We continue to get letters of appreciation for having created this first-ever commemoration of its kind. The coach also stands to honor the many employees of MBCR who are veterans. MBCR has received numerous requests for this coach to visit specific stations so that families and organizations can build events around it in their own community. This entire experience has provided MBTA and MBCR the opportunity to build a lasting relationship with these families as well as our local and state veterans' organizations.

North Pole Express: A Holiday Tradition in Boston

MBCR has hosted a 'North Pole Express' train for local deserving families each holiday season since 2010. We have worked closely with the MBTA, the City of Boston and a variety of organizations to extend invitations to under-served families, with some 700 guests participating in and taking home lasting memories. The theme of this magical ride comes directly from "The Polar Express" written by Van Allsburg. Along the ride, local celebrities and political figures read the Polar Express story to the children. MBCR's volunteer Santa, elves and characters enter the train to give holiday gifts to the children. After an exciting trip to the North Pole our little guests are treated to The Polar Express movie on a big screen and a holiday party held on the South Station concourse, complete with gifts for each child. This event is always a highlight both to MBCR and our communities. As the table details, we will continue our commitment with these same annual events and coordinating those that are called for to assist communities as needed.

Santa welcomes local families to share in MBCR's annual holiday service celebration.

COMMUNITY EVENTS	2011	2012	2013	2014	2015
Veteran Outreach					
Gold Star Memorial Coach Please see description on previous page	Events will occur throughout the year				
Letters to Soldiers In partnership with Massachusetts Military Heroes Fund (MMHF), MBCR hosts a day of letter writing to soldiers.	Sep	Sep	Sep	Sep	Sep
Health and Wellness					
Samaritans' Run/Walk for Someone Else's Life MBCR employees will participate in this Run/Walk	New in 2013		Sep	Sep	Sep
Trainsylvania Blood Drive for Halloween MBCR's Workforce Diversity Advisory Council hosts a Halloween themed blood drive at North Station	Oct	Oct	Oct	Oct	Oct
Youth and Youth Safety Programs					
North Pole Express - Please see description above	Dec	Dec	Dec	Dec	Dec
Boy Scout Railroad Badge MBCR hosts a program for 300 Boy Scouts supporting them to achieve the prestigious Railroading Merit Badge.		Oct		Oct	
Toys for Tots MBCR employees will continue their tradition of donating a generous amount of toys to local disadvantaged children.	Dec	Dec	Dec	Dec	Dec
Rail Safety Talk at Stations and Schools MBCR Representatives give safety talks at schools and on station platforms educating children on train safety.	All Year Event				
Safety Poster Art Contest Safety Art Contest for K-12 children. The theme is 'Train SmArt.' Prizes are given for the best drawings in each age group.	Annually				
Fighting Hunger					
Rosie's Place Craft Fair (Twice annual) MBCR hosts Rosie's Place Craft Fair at South Station. It is their largest grossing annual fundraiser for poor and homeless women.	Twice Annually				
Boston Rescue Mission Dinner of Thanks MBCR staff members volunteer to serve Thanksgiving Dinner at Boston Rescue Mission to families in need.	Nov	Nov	Nov	Nov	Nov
Disaster Relief – *Fundraising implemented as needed*					
Red Cross Hurricane Sandy Relief, Tornado Relief Western Massachusetts					
Boston One Fund					

7.B Best Practices Support

A summary of our major Customer Service initiatives follows, including how they illustrate innovation and best practices as well as bring benefit to customers.

Initiative	Section	Category	Validating Information
New Posters and Display Units at all Stations	7.A.1	Best Practice; Beneficial to Customers	Potential riders note desire for enhanced information
RailMail Proactive Communication	7.A.1	Innovative; Best Practice; Beneficial to Customers	More than 17,000 subscribers; helping them plan their travel
Mobility Survey/New Rider Research	7.A.1	Best Practice; Beneficial to Customers	Provide details about Commuter Rail; an opportunity to educate and recruit riders
Conductor Companion – Full Roll Out	7.A.1	Innovative; Best Practice; Beneficial to Customers	Conductors will have real-time information to update riders and instant access to rule books and train locations
Customer Companion App	7.A.1	Innovative; Best Practice; Beneficial to Customers	Customers will have real-time arrival information and one resource for all information
Rider Education Videos	7.A.1	Best Practice; Beneficial to Customers; Cost Efficient	Better understanding of service attracts more riders; reach mass audience
Digimind Social Media Management Platform	7.A.1 and 7.A.8	Innovative; Best Practice; Cost Efficient	Sophisticated technology to monitor and engage all social media channels in one interface
Lost & Found Web Site & App reporting	7.A.2	Innovative; Best Practice; Beneficial to Customers	Faster reporting and recovery of lost items, plus 24/7 access
Special Event Service Management	7.A.3	Best Practice; Beneficial to Customers; Cost Efficient	Fare collection and crowd management help protect revenue and keep customers moving safely and efficiently
JustRide Ticketing Enhancement	7.A.3 and 7.A.8	Innovative; Best Practice; Beneficial to Customers; Cost Efficient	Expedites the on-board ticket purchase process and ticket validation, increasing revenue and customer satisfaction
Parature Customer Feedback System	7.A.4 and 7.A.8	Innovative; Best Practice; Beneficial to Customers; Cost Efficient	Enables quick and professional responses to customer concerns, achieving MBTA goal; requires less manpower

Initiative	Section	Category	Validating Information
Service Improvement Leadership Team (SILT)	7.A.4	Innovative; Best Practice; Beneficial to Customers, Cost Efficient	SILT will analyze service trends, build and execute action plans to protect revenue and increases customer satisfaction
Meet the Managers	7.A.4	Best Practice; Beneficial to Customers/Cost Efficient	Ensures that all departments interact with customers and gather important feedback
Commuter Rail LAB	7.A.4	Innovative; Best Practice; Beneficial to Customers; Cost Efficient	Online platform linked to MBCR web site for virtual customer advisory group
Mystery Traveler program	7.A.4	Best Practice; Beneficial to Customers	Monitor service level and audits ADA regulations, standards and contract compliance
Genius Analytical Software	7.A.8 and Appdx. 5	Innovative; Best Practice; Beneficial to Customers	Enables extensive analysis of trends in every aspect of ridership data
Customer Service Culture Training	7.A.9	Best Practice; Beneficial to Customers	Deepen our Customer Service culture by expanding training to all levels of organization
Marketing Program to Build Ridership/Purple+	7.A.9 and Appdx. 5	Best Practice; Beneficial to Customers	Increase ridership and build customer loyalty

Summary

MBCR has provided excellent customer care for Commuter Rail riders in the Boston area for a decade. We are proud of our accomplishments and are passionately committed to improving our performance going forward. We have consistently increased customer satisfaction and made customer information more accurate, timely and useful. We provide ongoing public education on safety and security.

We have achieved high standards with our well-trained professional front line staff, last year's launch of Conductor Companion, our skill in Special Event Service and managing planned and emergency service disruptions, and our strong practices for keeping passengers informed with real-Time T-alerts, email, social media, LED messaging, announcement and station posters. These achievements, taken together with our day-to-day service performance levels, are delivering a top quality customer experience.

This proposal includes our making the significant investment necessary to install attractive new poster displays at all stations. We will also execute a full rollout of the Conductor Companion app with the purchase of iPhones for all Conductors, as well as the launch of Customer Companion – an information-rich mobile app to provide customers with everything they need to know when riding Commuter Rail, including real-time train arrival times. We will facilitate the next phases of JustRide, and launch on-board credit card and print-at-home ticket purchases. Our proposed update of uniforms will refresh the branding of our professional front line staff and make our personnel easily identifiable to our customers. We will continue our well-designed ongoing training for the front line staff and will include all staff departments in new customer service training to build an even more customer-driven culture.

Through the Commuter Rail LAB, we will engage customers in a "virtual advisory group" and get their input on new initiatives and services. We will rollout Veolia's Mystery Traveler program as a quality assurance tool, with its substantial information-gathering and reporting systems, and will establish a cross-departmental Service Improvement Leadership Team to find root causes of and solutions to customer concerns. We will rigorously manage our KPIs, and continue and expand our powerful community outreach programs. We also plan to increase public safety and security outreach via multiple methods, and keep our focus on ensuring ADA compliance.

Supplemental Appendix 5 – Customer Service contains our proposed marketing program to attract new riders and generate new revenue. It is the result of powerful customer research and includes engaging advertising and messaging, targeted marketing vehicles including focused digital media, and a rigorous measurement plan. We will also attract and keep riders with an exciting new Loyalty Program called Purple+ that will reward customers for time spent on the train. These are Improvement Proposals.

We believe that our Customer Service team has been a highly collaborative, responsible and responsive partner to the MBTA, and that we have demonstrated that we understand and meet the MBTA's expectations, goals and needs. Our proposal provides the MBTA with continuity and no transition risk, as well as innovative programs and enhancements. We will build upon the strong history and success of our alliance with the MBTA to further improve the customer experience in every respect and bring meaningful innovations to Commuter Rail in Boston.

Section 8 -
Management Plan

Section 8

Management Evaluation Factor Information

MBCR

Section 8 – Management Plan Evaluation Factor Information

Overview

1. MBTA Objectives

A. A Boston-based organizational structure and personnel who will ensure full compliance with all Contract requirements

B. Personnel who will ensure the cost effective provision of all Commuter Rail services

C. Personnel committed to providing the MBTA with all required information related to the operation, maintenance, compliance and costs of operating Commuter Rail Services

D. Demonstrate capability to work cooperatively with the MBTA to integrate new technologies and industry practices to improve overall system safety, cost effectiveness and performance

E. An effective staffing plan, labor structure, and workforce training

Over the past ten years, we have dedicated ourselves to understanding the MBTA's needs, expectations, equipment, infrastructure and customers. This deep insight in all areas of Commuter Rail operations gives us a solid base on which to accelerate the pace of our improvements and execute the many innovations described in this bid.

MBCR's management team is comprised of proven leaders who will continue to elevate our standards and quality levels, drive performance, effectively implement our proposed innovations, and deepen our culture of safety and customer service. Going forward, under the leadership of Bonnie Murphy, we will be an even more unified management team, with improved communication and collaboration. Our senior team will continue to rigorously monitor Key Performance Indicators (KPIs) in all departments and will create a new integrated online dashboard showing daily performance in all key areas. We are passionate about implementing all the innovations in our bid, including our new World Class Operations & Maintenance and Reliability Centered Maintenance approach in Mechanical that will enable our team to raise maintenance standards on the legacy equipment while effectively integrating and maintaining the

new MPI locomotives and Rotem coaches; the enhancements to Masabi's JustRide ticketing system that will enable us to accept credit cards on board and customers to print tickets at home; the new Customer Companion app that will complement mTicketing, and more.

We are dedicated to continuing to be transparent and responsive to the MBTA's concerns, and to help achieve your vision for Commuter Rail. We are very proud of what we have achieved together and look forward to achieving more ambitious goals going forward. We bring you innovative ideas and a track record of performance, without the many risks inherent in the transition of a system of this size and complexity.

2. MBCR Key Achievements

Our team was assembled and retained for its proven track record of accomplishments and extensive knowledge of the MBTA and its system. This unmatched local knowledge is invaluable for effectively managing day to day performance, finding efficiencies and delivering innovation in this large, complex system with 14 labor organizations. The following highlights of past successes represent the strength and depth of our management capabilities:

- Successfully managed a seamless six-month mobilization between January and July 2003 after securing the current contract award from the MBTA.
- Achieved our contractual On Time Performance goal 8 out of 10 years. We are continuing our successful performance with a 2013 year-to-date OTP of 96.3%.
- Instilled safety in all facets of our operation as evidenced by MBCR being ranked number one compared to similar sized U.S. commuter railroads in the first quarter of 2013, with the fewest Reportable Injuries and the lowest Accident Frequency Ratio.
- Partnered with the MBTA to install Automated External Defibrillators (AED) on commuter rail trains to improve overall system safety leading to two passengers' lives being saved.
- Increased customer satisfaction, as evidenced by our 88% customer Performance Index score measured by online surveys, and our very low complaint rate, with only one complaint per every 6,934 passenger trips.
- Successfully reached labor agreements with all 14 labor unions during two separate bargaining rounds.
- Partnered with the MBTA to implement a large number of service expansions, including new service on the Greenbush line and the recent successful launch of the CapeFLYER train service to Cape Cod.
- Increased the reliability and performance of all the system's assets, including improving inspection and maintenance practices, to facilitate a strong HVAC performance improvement. This comprehensive approach led to a near-perfect record for air conditioned coaches in service in the 2012 season (99.97%) and commendation from the MBTA through a Performance Recognition Award. We achieved similar results the last 4 years as well as this year.
- Secured ISO 9001 Certification for our Mechanical Department's Truck Shop, Traction Motor Shop and Wheel Truing Machine Shop in 2012. We have already begun Quality Management training and ASQ certification for our managers in preparation for implementing World Class Operating and Maintenance, our industry-leading practice of equipment maintenance.
- Improved winter preparedness and execution, supporting a 16% improvement in unadjusted OTP from 2011 to 2013.
- Efficiently managed force account (supplemental work) projects such as vehicle, facility and system upgrades, station and right-of-way improvements, with significant savings to the MBTA compared to outside contractor costs.
- Increased diversity by 93.4% since 2003, and DBE participation, with an MBCR Fiscal 2013 DBE participation rate at 18.3% of expenditures on goods and services, exceeding our current contractual goal of 11.5%.
- Implemented a large number of new technology and innovation projects including Parature, Conductor Companion, upgrades to Trapeze EAM, an innovative cover that protects traction motors from moisture and debris that

resulted in a 31% reduction in traction motor repairs between 2009 and 2012; and the design, development, and installation of high-pressure rail washers to prevent delays and improve OTP during the autumn when fallen leaves can become an operational hazard.

- Substantially increased the quantity and quality of ongoing training, and have ambitious plans going forward (please see Supplemental Appendix 7).
- Achieved MBCR being ranked the most cost-effective of eleven comparable U.S. railroads in expense per vehicle revenue mile and third lowest in expense per passenger mile from 2008 to 2010, which are the most recent years for which the National Transit Database has data.

3. MBCR Key Future Commitments

MBCR will continue to benefit from the best practices, innovations and quality standards of our three partners - ACI, Bombardier and Veolia. Veolia's parent company is a world leader in public transportation with 95,00 employees and operations in 21 countries, including extensive transit and regional, commuter and light rail systems. We will continue to augment our management team with expertise from our partners' global businesses, which is reflected in our proposal and will continue to be systematically applied. This includes the sharing of knowledge and experience as well as best practices and training programs. MBCR is efficiently managed by a Board of Directors comprised of its respective team members (ACI, Bombardier, and Veolia) who don't interfere with day to day operations; rather strive to play an integral support role in achieving MBCR's objectives.

Please Note: *This "T light bulb" icon will be used throughout this section, and the proposal, to identify our proposed innovations for the next contract period.*

Our management team is committed to delivering the seven main promises discussed in the Executive Summary, which include taking all necessary actions to ensure uncompromising safety, superior customer experience, high-performance culture, protection of the MBTA's assets, industry-leading operational performance, value and efficiency, and innovation and growth.

Board members representing each partner organization include:

- **Ron Hartman** is Veolia Transportation (Veolia) North America's CEO of the Rail division, responsible for North America's rail operations and for business development and Veolia's infrastructure maintenance business within the rail division. Ron brings his unique expertise alongside with his global vision, rooted in 25 years of distinguished, top level management experience, both in the public and private sectors. Ron spent almost two years with Veolia in Paris, working with French transit networks. Prior to this position, Ron served as the Executive Vice President of Yellow Transportation (purchased by Veolia), as Amtrak's Vice President for Planning and Development and as Deputy Administrator and then General Manager of Maryland's Mass Transit Administration.
- **James O'Leary**, President and co-owner of Alternate Concepts, Inc. (ACI), has a long history of strong leadership with a hands-on approach, which has developed ACI into a leading transportation operations and maintenance company with contracts in Boston, Phoenix, Denver, San Juan, Puerto Rico and as managing partner of Paul Revere Transportation, LLC—one of the largest private bus operators nationally. Before ACI, Mr. O'Leary served as General Manager of the MBTA where, during his tenure, the agency controlled and lowered costs while at the same time implementing an aggressive modernization program of the system. Prior to the MBTA, Mr. O'Leary served as Legal Counsel to U.S. Congressman Joseph Moakley and as Deputy Cabinet Secretary and General Counsel for the Massachusetts Executive Office of Transportation and Construction.
- **Matt Byrne** Vice President, Services, Bombardier Transportation (Bombardier) North America, responsible for the largest private provider of passenger rail

operations and maintenance in North America. Matt brings a wealth of knowledge and experience from European passenger rail operations and is a highly involved executive with a proven track record in optimizing fleet performance and dramatically enhancing client's asset values and returns. This was achieved through the implementation of Bombardier's World Class Operations and Maintenance Program, which he developed in the UK and is now successfully operating in many countries around the globe which is part of our proposal to MBTA. He began his career in transit in the UK with Virgin Trains, where customer service was the cornerstone to their operation. Matt joined Bombardier in 2000, holding multiple positions as Director of large-scale, high-profile passenger rail projects throughout UK, including being the lead in a Joint Venture which was responsible for a fleet of 650 vehicles serving one of the busiest London commuter routes.

New Headquarters

MBCR proposes a permanent home for MBCR in Roxbury. We are in discussions with Tubman Transit Partners to construct an office building adjacent to the Ruggles Street MBTA station. MBCR will be the anchor tenant. MBCR is prepared to assist Tubman to bring this transit-orientated development to fruition, ensuring an employment center for the community and attracting other businesses for smart growth. This central location allows easy access for our employees and benefits from close proximity to prominent area colleges such as Roxbury Community College, Wentworth Institute of Technology, Northeastern University as well as Madison Park Technical Vocational High School.

High-Performing Culture

Understanding that people and processes are what drive business success, MBCR's management team is committed to continuing to build a high-performance culture across the organization. This will be achieved through a multi-faceted program that includes our enhanced Quality Assurance Plan with practices, procedures and measurement built on ISO 9001 and the FTA's QA and QC Guidelines. Our focus on quality also includes increasing the quantity and quality of training and certification (see Supplemental Appendix 7), and improving internal collaboration and employee communication. We realize that to achieve our goals, we need to enroll the staff in our vision and engage them in helping us achieve the many new programs and innovations described herein.

Starting with our management team, we will work to strengthen the customer orientation and mindset among all our employees so that each person understands his or her contribution to satisfying customers, as well as to ensuring safe operations.

Our Quality Assurance Program coupled with our Service Improvement Leadership Team and the MBTA's Customer Service Improvement Plan process will formalize the actions our people take to continuously improve and to increase consistency and uniformity in our operations and maintenance of the system.

Our Service Improvement Leadership Team (SILT) (detailed in Customer Service Section 7.A.4) will ensure cross-organizational collaboration on solutions to resolve complaints, prevent issues, and improve service.

Our management team will continue to be focused on developing a highly skilled and diverse workforce through recruiting, training, and successfully partnering with the 14 labor organizations that staff our company.

Our Zone Plan will increase accountability through the geographic segmentation of the Commuter Rail system, with resources from various departments aligned to support performance, safety and incident response for their assigned geographic zone including engagement with local stakeholders.

Our dedicated Training Center of Excellence in Readville will be another pathway for improving and expanding the skills of our employees along with allowing for expanded training programs while supporting our transition from an organization that "trains" to one that continually "learns".

Mentoring and Leadership

Underpinning our high performance culture is our commitment to expand our mentoring program to all employees in the first year of the next contract. This program began in 2007 to provide mentoring and training to women and minorities in the workforce and resulted in several promotions to roles with greater responsibility. This program will continue to provide support to new employees, help supervisors and managers get advice and training for their career development, and help to transfer knowledge to younger workers as retirement approaches for some of our employees. One aspect of the program will be to pair high potential employees with mentors who are one or two ranks higher. For example, a Conductor who wants to participate in the mentoring program would be paired with a mentor who is in a Superintendant role so he/she could shadow this individual and learn the required skills and information needed to successfully fill that position. Through this sort of pairing, MBCR will also support succession planning efforts for management and supervisory positions.

MBCR recognizes the need for long-range planning and will institute a formal succession planning process. This process will be in place by 2014 and will include projected attrition in critical skill positions, and the identification of employees who will receive mentoring and training to ensure their career development and the transfer of knowledge to our future leaders.

MBCR Commuter Rail Service Key Performance Indicators Dashboard

MBCR utilizes over 30 daily reports that are developed within the TRMS-II database to track Commuter Rail Service KPIs. During Mobilization, MBCR will develop and implement a comprehensive state-of-the-industry KPI Dashboard that will provide our Management team and the MBTA the current real-time status of MBCR Train Service and Service Quality metrics. In each section of our proposal, we have carefully delineated the KPIs that are essential for continued improvement of the customer expierience and achievement of our operational goals and commitments.

As shown on the following page, MBCR's KPI Dashboard will provide relevant status in the categories of Safety, Service, and Departmental functions such as Mechanical, Engineering, Crew Management and Customer Service. All of the KPIs will be linked to the TRMS-II database providing statistical analysis of trending both upward and downward – by day; by hour of the day; by month to date; and year to date with comparison to goals established by the MBCR Management team and Departmental leaders.

The KPI Dashboard example shown on the following page will assist our management team in seeing exactly where things stand and support cross departmental collaboration to solve issues that could be causing us to perform under our expectations at any given moment.

Our many instances of cross departmental collaboration will be enhanced by this new KPI Dashboard. For example, the Transportation Department supports our OTP performance by minimizing Transportation-related delays relating to train crew staffing, excessive dwell time, and dispatching resolution, so we can meet the MBTA train schedules. The Mechanical team drives accountability for locomotive and coach availability, supply of active train sets and performance of daily maintenance servicing and fueling, which directly affects the customer experience. Similarly, the Engineering team drives programs to eliminate and prevent temporary speed restriction and to complete annual contract units to renew the overall infrastructure of track, structures and train control systems. The Customer Service team focuses on rapid response to customer comments and concerns, as well as real-time sharing of information. The Operations Planning team reviews trending KPIs and assists with the development strategies to improve performance, such as the development of a annual program to protect OTP during the "slippery rail" fall foliage season, among other similar seasonal plans.

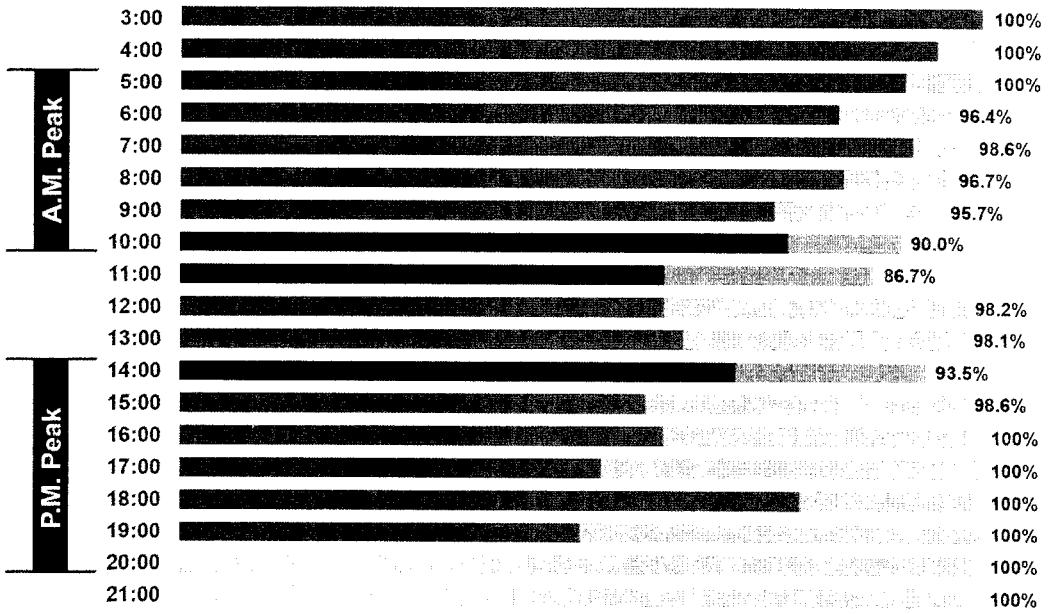
MBCR Commuter Train Service Key Performance Indicators

Key Performance Indicator	Today	M-T-D	Y-T-D	Goal
Safety				
Reportable	1	3.06 AFR	1.99 AFR	**2.42 AFR**
All Injuries	2	4.28 IFR	3.84 IFR	**3.48 IFR**
Service				
OTP North Side	95.71	92.06	91.61	**95.00**
OTP South Side	90.00	91.06	93.07	**95.00**
OTP System	93.06	91.49	92.46	**95.00**
Mechanical				
Loco Availability	64	65.5	64.8	**60**
Coach Availability	360	360.0	357.5	**356**
Engineering				
Speed Restrictions (miles)	10.2	10.8	17.8	**12**
Work Completion (units)	80%	90%	95%	**100%**
Crew Availability				
Engineers	157	160	150	**161**
Conductors	148	152	157	**158**
Assistant Conductors	160	162	165	**186**
Customer Service				
Service Complaints	18	45	315	**< 20/day**

On Time Performance Drill Down

Today	Month to Date	Last Month	Past 90 Days
	May 1 – May 21	April	February 2 – May 21
93.80%	**91.49%**	**95.77%**	**95.33%**

On Time Performance By Hour



The MBTA will have full access to MBCR's KPI Dashboard to monitor our performance when and how the MBTA desires. In addition, our entire team will continue to improve the processes that provide detailed and timely information to the MBTA related to the customer experience, operations, maintenance, and compliance. We are committed to ensuring the MBTA has the information it needs in all areas.

Advisory Committee

We will establish an Advisory Committee. The Committee will be appointed to provide high-level, strategic and policy advice to senior MBCR management in developing, executing, and measuring the MBCR performance and its programs of continuous improvement. Through MBCR, they are also available for advisory services to the MBTA. The members of the Advisory Committee are a diverse group of seasoned transportation professionals, with experience managing large organizations in the public and private sector. The Committee will meet twice a year. High-level MBTA representatives will be invited to attend.

The Committee will concentrate its efforts on:

1. Review of performance towards achievement of goals
2. Review and advice on new initiatives as we execute including potential investment
3. Generation of ideas to continually improve Commuter Rail service
4. Labor strategy
5. Recruitment, community outreach, and diversity
6. Industry trends and federal policy issues as they relate to MBCR operations.

The Advisory Committee members will be:

Shirley DeLibero. Ms DeLibero started her career with the MBTA and moved on to a series of senior-level positions in the nation's largest transit systems including New Jersey Transit, Dallas Area Rapid Transit, and the Washington Metropolitan Transportation Authority. She served as CEO for Houston METRO. Ms DeLibero is currently a consultant, residing in Boston.

Thomas Downs. Mr. Downs is a long-time transportation executive. He served in various high-level capacities with the District of Columbia Transportation Department and the US Department of Transportation. Mr. Downs was New Jersey's Commissioner of Transportation and then moved on to take the helm of Amtrak as Chairman and Chief Executive Officer. He headed the ENO Foundation and currently chairs the Washington Metropolitan Area Transit Authority.

Sherry Little. Ms Little has 13 years of professional staff experience in the United States Senate with the Senate Rules Committee, and Senate Banking Committee serving under several high-profile Chairmen. She ran the U.S. Department of Transportation's Federal Transit Administration through the end of the Bush Administration, previously serving as Deputy Administrator. Currently, Ms Little is a partner in Spartan Solutions, an infrastructure firm specializing in public-private-partnerships, and the oversight of major capital infrastructure projects.

William McCloud. W.H. (Bill) McCloud began his transit career as General Manager of Hillsborough Area Regional Transit (HART) in Tampa, Florida. He joined ATC/Vancom in 1994 and was named Chief Operating Officer in 1995. He became Veolia's Vice President of Client Relations when ATC/Vancom was acquired in 2005. He is a member of the National Forum for Black Public Administrators, and was named Citizen of the Year by the City of Tampa in 1993. He currently serves as Veolia's Executive Vice President for Client Relations.

Management Information

8.A Key Personnel

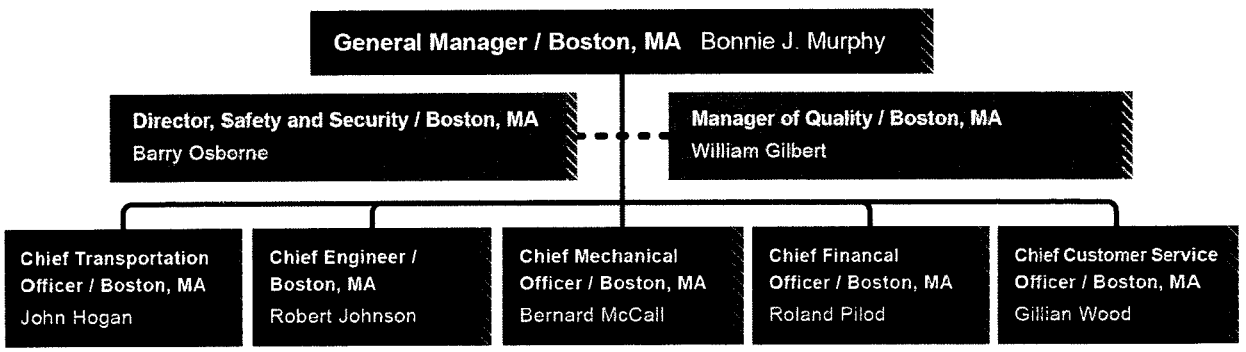
MBCR's key personnel are Boston-based and have the specific skill sets and experience required to accomplish the successful management of the MBTA's Commuter Rail system. Our management team will focus on nurturing and developing a high performing culture to deliver uncompromising safety; a superior customer experience; quality asset management; and cost effective delivery of service while maximizing revenue opportunities. MBCR has built and attracted a management team that will ensure these principles are met, and bring extensive hands-on experience with MBTA's Commuter Rail as well as decades of rail experience obtained in other systems.

MBCR General Manager Bonnie J. Murphy has spent her entire career in the railroad industry and brings invaluable experience from the FRA, and extensive operational experience from Amtrak and Trinity Commuter Rail in Texas. She has high standards for performance and accountability, as well as for effective collaboration between departments, both of which are necessary to deliver on our promises to customers and to the MBTA. She is committed to taking our organization to the next level in terms of its results and to keep the MBTA apprised of our performance and progress.

MBCR's Chief Mechanical Officer has worked in the mechanical services arena for 40 years and has kept trains operating across the Eastern Seaboard. The Chief Engineer brings invaluable experience in managing MBTA's Capital Improvement Projects for the majority of his career. The Chief Transportation Officer has over 29 years of operations and safety experience on Boston's rail transit system with both MBCR and the MBTA. The Director of Safety and Security has more than 30 years of experience working with MBCR and Amtrak in Operations, Training, Safety and Security, and applies that knowledge daily to our operations. The Chief Customer Service Officer has been at MBCR for the entire duration of the current contract and uses her in-depth knowledge of customers and past rail experience at MBCR and in the United Kingdom to help improve service and amenities offered by MBCR. The Chief Financial Officer has focused his entire career on the financial management of transit properties, maintaining a high-performing yet cost-effective service. Our Manager of Quality brings over 27 years of experience in implementing Quality Management Systems for both Government Fortune 500 companies.

MBCR is proud to have been MBTA's operational partner for over a decade, and attributes the service's growth and success to the collaborative efforts and initiatives that were a result of this partnership. Through a strong leadership team that will foster a culture committed to constant improvement and innovation, MBCR is committed to sustaining the MBTA's reputation as one of the leading public transportation authorities in the United States.

8.A.1 MBCR Key Personnel Organizational Chart


General Manager / Boston, MA Bonnie J. Murphy
Director, Safety and Security / Boston, MA
Barry Osborne
Manager of Quality / Boston, MA
William Gilbert
Chief Transportation Officer / Boston, MA
John Hogan
Chief Engineer / Boston, MA
Robert Johnson
Chief Mechanical Officer / Boston, MA
Bernard McCall
Chief Financal Officer / Boston, MA
Roland Pilod
Chief Customer Service Officer / Boston, MA
Gillian Wood

8.B Resumes for Management Position

The following eight pages highlight the resumés of the key personnel in the above organizational chart.

General Manager – Bonnie J. Murphy

Ms. Murphy is a rail industry professional with executive level experience in guiding strategic safety, management, and organizational effectiveness for both public and private sectors. She has worked for the FRA as a Regional Director and was then promoted to a senior executive position at the Federal level. Ms. Murphy also has strong managerial and operational experience with various Commuter Rail operators, making her uniquely positioned to serve as the MBCR General Manager. Her extensive work with unions at Amtrak and most recently at the Rail Safety Advisory Committee as the Lead Negotiator offers yet another advantage to MBCR. She is recognized by the Secretary of Transportation for service and for her contributions to safety. Ms. Murphy's participation in APTA, WTS, and various other rail-related organizations ensures that she maintains up-to-date information regarding the industry, which she has effectively deployed in her work.

2012-2013 Deputy Associate Administrator – Safety & Compliance Federal Railroad Administration

Responsible for the planning, development and administration of effective safety practices and procedures for the railroad industry, including the implementation, and administration of strategic initiatives of the US Secretary of Transportation that impact the railroad industry, railroad safety, and intermodal safety programs.

2003-2013 Regional Administrator, GS-15 (FRA)

Responsible for the management of FRA inspections and enforcement on short-line, Class I, and commuter railroads for the Southwest Region, comprised of Texas, Arkansas, Oklahoma, Louisiana, and New Mexico. Oversaw the safe start-up of new commuter operation in Austin utilizing DMU vehicles, and represented the Secretary of Transportation for rail issues in the hurricane Katrina aftermath.

1996-2003 Chief Operating Officer Trinity Rail Express, Irving, TX

Rail service operating between Dallas and Fort Worth Texas. Managed contracted services for train operations, dispatching, and the maintenance of commuter equipment, track, structures, and signals.

Amtrak (National Rail Passenger Corporation)

1994-1996	Sr. Transportation Manager, Oceanside, CA
1992-1994	Transportation Manager, San Jose, CA
1988-1992	Asst. Transportation Manager, Chicago, IL
1983-1988	General Supervisor, Chicago. IL

30 Years of Experience

Education

Touro University,
Cypress, CA
MBA – 2002

LaTourneau Univ.
Longview, TX
BBA - 1999

Certification

Operation Lifesaver Presenter

Affiliations

APTA – Chief Executive Officers Committee Member

North Texas Rail Association – Board of Directors Nat'l Partnership Council FRA-AFGE

American Council Railroad Women Past President and Board Member

Chief Transportation Officer - John Hogan

Mr. Hogan is an accomplished professional with 29 years of experience in the operations, safety and security of MBTA's public transportation network. He has significant experience with the operations and regulatory requirements of both rail transit and commuter rail systems. He has worked both with and for the MBTA in the delivery of safe and reliable passenger rail services his entire career. With a strong record of safety and keen understanding of priorities for MBCR, Mr. Hogan continues to be the right choice for the CTO position.

2012-Present Chief Transportation Officer
MBCR, Boston, MA

Directs the efficient and safe management of all functional areas of the Transportation Department, including, train operations, train dispatching, and crew management.

2008-2012 Director of Safety & Security (MBCR)

Planned and directed MBCR's Safety and Security Department with oversight of safety and security compliance, regulatory reporting, and hazard analysis and risk assessment.

2007-2008 Director of Security
MBTA, Boston, MA

Responsible for development and implementation of plans and training programs to ensure MBTA's organizational compliance with all relevant guidelines for security; worked with TSA & DHS to secure $81 million for improved training to increase security of MBTA System.

2005-2007 Director of Operations Control (MBTA)

Responsible for daily oversight of the MBTA's Operations Control Centers and training schools for rapid transit / light rail and bus operations. Activated the Emergency Operations Control Center during emergencies and coordinated the response for all MBTA services, including subway, bus, commuter rail and ferry.

Additional Experience (MBTA)

2002-2005	Chief of Operations Control
1996-2002	Transportation Manager – Rail Operations
1994-1996	Supt. Operations Control Center
1984-1993	Operations Supervisor

29 Years of Experience

Operations, Safety and Security Experience in all forms of Boston's public transportation

Education/ Certifications

TSI Certification: Safety/Security Rail 2012

NTI Certificate: Safety-Security-Operations 2007

Suffolk University: Leadership Certificate 2004

Northeastern Univ.: Graduate Certificate-Transportation Management 1993

Associations

APTA – Security & EPREP Committee: Chairman

APTA – Rail Standards & Operating Practices Committee: Panel Member

Chief Mechanical Officer – Bernard McCall

Mr. McCall is an industry professional with nearly 40 years experience in maintaining railroad locomotives and rolling stock utilizing 49 CFR (Parts 200 - 299) and APTA "Manual of Standards and Recommended Practices for Passenger Railroad Mechanical Services. Accomplishments at MBCR include a 35% reduction in employee injuries, and ISO 9001 certification of the Truck Shop, Traction Motor Shop and Wheel Truing Machine. Under Mr. McCall's leadership, the mechanical department has made tremendous strides with fleet availability and comfort and cleanliness for our passengers. He has the requisite experience and managerial abilities to integrate the new MPI and Rotem equipment as well as our industry-leading World-Class Operations and Maintenance and transition to Reliability Centered Maintenance.

2011-Present **Chief Mechanical Officer**
MBCR, Boston, MA

Plans, directs, manages and oversees the activities and operations of MBCR's Mechanical Services Department in inspecting and maintaining MBTA's Commuter Rail revenue fleet of 81 diesel locomotives, 410 passenger coaches, and non-revenue fleet.

2010-2011 **Chief Mechanical Officer**
Northeast Region
RailAmerica, Inc. Jacksonville, FL

Directed all locomotive and fleet maintenance for seven short-line freight railroad operations located in the Northeastern US and Canada.

2009-2010 **General Manager**
Pan Am Southern Railway, North Billerica, MA

Responsible for operations & maintenance of a Regional Railroad (Class II) serving New York, Massachusetts, and Connecticut.

2006-2009 **AVP Network Ops – Locomotive Mgmt**
CSX Transportation, Jacksonville, FL

Coordinated network maintenance and operations of locomotive fleet.

Additional Experience (CSX)

2004-2006	Dir. Mechanical Operations, Jacksonville, FL
2001-2004	Div. Mechanical Superintendent, Selkirk, NY
1996-2001	Division General Car Foreman, Selkirk, NY
1984-1996	Locomotive Shop Superintendent, Selkirk, NY
1980-1984	Locomotive Shop, Supervisor, Selkirk, NY
1974-1980	Locomotive Shop, Laborer, Machinist

40 Years of Experience

Decades of experience in maintaining railroad equipment utilizing 49 CFR (200-299)

Education

Siena College:
Bachelor of Science, Marketing/Finance, 1985

Hudson Valley Community College, Associate Degrees Transportation Distribution Management, 1982

Associations

New England Rail Association:
Vice President

Association of American Railroads:
Committee Member

Chief Engineer – Robert Johnson

Mr. Johnson has worked in the field of engineering within the rail industry for more than 30 years. He has in-depth experience with the infrastructure of MBTA's Commuter Rail operation including Track, Signal, Bridge & Building, Facilities, Electrical, Force Account Divisions, Fleet Maintenance and Environmental. He has also had responsibility for Operating Agreement compliance, safety initiatives and regulatory requirements within the Engineering Department.

2007-Present **Chief Engineer**
MBCR, Boston, MA

Manages the daily operation and maintenance of the MBCR's Engineering Department and responsibility for MBTA Track, Signal, Bridge & Building, Facilities, Electrical, Engineering Equipment and Force Account Divisions, as well as corporate-wide Fleet Maintenance and Environmental Departments. Responsible for ensuring all Operating Agreement obligations are met and that all safety initiatives and regulatory requirements are adhered to and documented. Also responsible for budget compliance and personnel management.

2004-2007 **Deputy Chief Engineer (MBCR)**

Managed remedial and emergency maintenance activities of the Track, Signal, Bridge & Building and Electrical Departments. Also responsible for the implementation of departmental safety initiatives, personnel management and corporate-wide vehicle maintenance.

2000-2004 **Senior Project Manager**
Vanasse Hangen Brustlin, Inc., Boston, MA

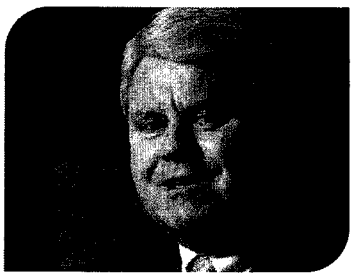
Served as a consultant on a variety of MBTA projects including the Fall River/New Bedford Commuter Rail Project design, construction of three bridges on the Fall River/New Bedford Line, and one of the MBTA's general engineering/task order contracts.

1998-2000 **Chief of Planning, Construction & Facilities Maintenance**
MBTA, Boston, MA

Responsible for oversight and coordination of: outside contractors that impacted the operation of the railroad. Directly responsible for coordinating the interface between the MBTA and Central Artery Tunnel Project (CA/T). Commuter Rail Maintenance Facility; and all phases of Amtrak's electrification project.

Additional Experience (MBTA)

1988-1998	Project Manager, Commuter Rail Improvement
1986-1988	Project Manager, Track Improvement
1984-1986	Resident Engineer



37 Years of Experience

Decades of experience in maintaining railroad infrastructure and facilities

Education

Northeastern University, 1987

University of Massachusetts, Institute of Labor Affairs, 1973

Chief Financial Officer – Roland Pilod

Mr. Pilod has over a decade of domestic and international finance experience including the mobilization, start-up and provision of contracted Operations and Maintenance services to public agencies. His experience includes the financial management of FTA and ARRA funded infrastructure projects and service contracts with New Jersey Transit, York Regional Transit–Toronto, Orange County Transportation Authority, Southern California Regional Rail Authority-Metrolink, Maryland Transit Administration, and the MBTA. Mr. Pilod is uniquely qualified with both operational insight, strategic partnering, and financial acumen.

2011-Present **Chief Financial Officer**
MBCR, Boston, MA

Manages and directs finance, accounting, budgeting, audit, treasury, tax and financial reporting; oversees the issuance of financial statements in GAAP and force-account and infrastructure projects (including ARRA and FTA funding requirements); ensures regulatory compliance with Sarbanes-Oxley and Railroad Retirement; participates in union contract negotiations; and manages four separate union/non-union payrolls, applying 14 payroll-related collective bargaining provisions. In collaboration with MIS Manager, defines and implements IT strategy, network management and security.

2007-2011 **Controller – Eastern Region**
Veolia Transportation, Chicago, IL

Provided regional financial oversight of 15 O&M contracts in the U.S. & Canada. Led and executed budgeting and forecasting processes, produced and analyzed monthly P&Ls, explained and investigated variances with General Managers of profit centers, and Monitored Accounts Receivables, Inventories and Capital Expenditures.

2006- 2007 **Finance Manager**
Veolia Transportation, Los Angeles, CA

Worked with local team to implement the start-up of the largest privatized U.S. Paratransit contract and provided financial oversight of a $30M revenue contract. Established internal controls for A/P, fares collection, invoicing and financial reporting.

2005-2006 **Financial Analyst**
Veolia Transportation, Washington, D.C.

Served as controller for Canadian Operations.

Additional Experience

2005-2006	French Consulate – Vancouver, BC (Intern)
2002-2003	Rhodia – Paris, FR (Chemical Group)
2000-2002	Jr. Essec Conseil – Paris, FR (Consulting)

12 Years of Experience

Significant experience with public O&M and infrastructure finance

Education

Ecole Superieure des Sciences Economiques et Sociales: MBA 2004

Lycee Montaigne, Paris (France): Preparatory Classes for Graduate Business School program 1997 -1999

Baccalaureate 1997 Economics & Math

Certification

NTI – Orientation to Transit Procurement: Best Practices (FTA) Procurement Series 2012

Chief Customer Service Officer – Gillian Wood

Ms. Wood is a seasoned rail transit professional with international experience who joined MBCR in 2003 to establish its Customer Service department and Ticket Office functions. She is an expert in fare structure and rail ticketing, and has worked with the MBTA to plan and execute the mTicket and Conductor Companion development and roll-out as well as other customer service initiatives. Her technical expertise helped to drive her team's implementation of Parature – MBCR's Customer Relationship Management system, and incorporation of electronic customer communication vehicles including RailMail, Twitter and Facebook. Under her leadership, MBCR has developed an extensive suite of customer service training programs that are regularly delivered to frontline staff.

2006-Present Chief Customer Service Officer MBCR, Boston, MA

Responsible for leading the Customer Service Department and coordinating efforts with all of MBCR's departments to ensure consideration of customer needs and expectations in all aspects of railroad operation and service delivery. Oversees all passenger information including social media, as well as processes to respond to customer feedback and enhance customer relationships. Responsible for coordination of Special Event Service. In addition, provides oversight for customer service training development and execution, service planning and development, the service performance of MBCR Conductors and Ticket Agents, and Lost & Found. Based on customer input, coordinates with all departments to improve service quality and ease of use of Commuter Rail. Develops initiatives to enhance fare revenue operations, and works to align MBTA's vision and goals within MBCR to provide a consistently superior customer experience.

2004-2006 Chief of Passenger Operations (MBCR)

Responsible for the dispatch and operation of 485 daily trains, including safety, budget, on-board revenue collection, crew management, training, rules and regulatory compliance. Oversight of the operational Training and Rules department, to meet Federal Railroad Administration (FRA) assessment of competence requirements. Development and delivery of the company's first Engineer training program. Interface with three other railroad companies operating freight and passenger operations within MBCR territory.

2003-2004 Customer Service Manager (MBCR)

Established MBCR's Customer Service Department, including ticket offices, protocol for customer inquiries, and assumption of all customer responses from MBTA staff, customer service training, fare collection and coordination of special event service.

Additional Experience (Connex Southeastern - UK)

2000-2003 Commercial Manager, Kent Mainlines
1998-2000 Commercial Manager, Ashford/Maidstone

31 Years of Experience

Unique commuter rail experience and understanding of both Rail Operations and Customer Service.

Education

Business Technical Education Council (BTEC)

NVQ – Business Administration, and Customer Service

A-Level Standards-English/Math / Geography/History

Director, Safety and Security – Barry Osborne

Mr. Osborne is a career rail industry professional with over 30 years of experience in train operations, train dispatching, safety management and railroad rules training, all within the Boston Area. He has significant experience with the FRA, DHS, and TSA, and has a thorough knowledge of their safety, security and reporting requirements. Mr. Osborne's leadership was instrumental in MBCR being ranked number one during the first quarter of 2013, with the fewest Reportable Injuries and the lowest Accident Frequency Ratio (AFR) when compared to similar-sized Commuter Rail networks. He will lead MBCR's commitment to uncompromising safety through devotion to continuous enforcement and improvement

2012-Present Director of Safety & Security
MBCR, Boston, MA

Directs Safety and Security Department with oversight of safety compliance, investigation and reporting of incidents, accidents, derailments, and rules violations; performs hazard, risk, and security assessments and implements corrective action plans. Works closely with the Federal Railroad Administration (FRA), OSHA and MBTA to ensure compliance with all regulatory and contract requirements

2010-2012 Manager of Operating Rules (MBCR)

Responsible to insure all employee qualifications and certifications were maintained, administered efficiency test program, led all rule violation investigations and published operations bulletin orders and notices

2008-2010 Chief Train Dispatcher (MBCR)

Responsible for the management of the North Side MBTA commuter rail dispatch, Operations Control Center, and CSX, and Pan Am Railway freight operation interface

2006-2008 Manager of Safety & Training (MBCR)

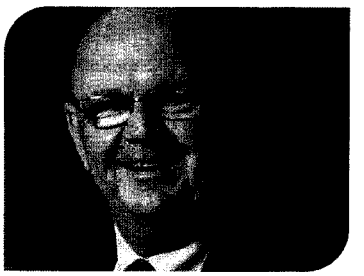
Directed the Safety and Training Departments, and oversaw the safety compliance and reporting requirements of the FRA, MBTA, and MBCR, and managed the technical training and certification of employees

2004-2005 Trainmaster (MBCR)

Supervised employees in MBTA commuter train and engine service, evaluated job performance through train rides, observation and efficiency testing

Additional Experience (Amtrak)

2001-2003	Train Dispatcher
1997-2000	Safety Engineer
1994-1997	Manager Operating Rules
1993-1994	Transportation Manager
1986-1993	Supervisor Commuter Operations
1978-1986	Boston & Maine Railroad



35 Years of Experience

Expertise in Safety, Rules Training, Train Operations and Train Dispatch

Education/ Certifications

Salem State College: 1974-1977 Business Education Courses

Technical Training:

Rail Accident Investigation

First Responder

Violence in the Workplace

Associations

NORAC - Advisory Committee Member

FRA – Close Call, and Safety Advisory Committee Member

Manager of Quality – William Gilbert

Mr. Gilbert has over 27 years of experience in the field of Quality Program Management for leading US companies. He is a Six Sigma Black Belt and a certified ISO Auditor, and has extensive experience in the implementation of performance metrics, lean methods, continuous improvement tools, statistical process control, and process optimization. With experience in several industries and leadership in the Air Force and other companies, Mr. Gilbert will assist MBCR to raise the standards for obtaining the highest quality compliance, service and operations.

2013-Present Manager of Quality, MBCR, Boston, MA

Manages all aspects of quality and ensures adherence to all instructions, processes and procedures documented through the Quality Assurance Plan (QAP). Responsible for implementation and tracking of the QAP, all quality control and auditing activities, and all regulatory compliance without limitation, including FRA, OSHA, APTA, DEP, FTA.

2012-2013 Quality Manager, Serco, Inc., Reston, VA

Leader of an internal Quality organization tasked with the implementation of an ISO 9001 based Quality Management System for the AFile program of immigration data to support the Department of Homeland Security.

2010-2012 Quality Manager, Ratheon, Riverdale, MD

Responsible to perform due diligence and provide process and quality system accountability for 24 separate programs within the company's Mission Operations Solutions directorate.

2009-2010 Senior Quality Manager, Edgewater Federal Solutions (Contract Position)

Developed quality strategy and documentation for the Enterprise Secure Network Program office, including implementation of metrics, reengineering work processes, and implementation of a Quality Management System.

2008-2009 Senior Quality Manager ASRC (Contract Position)

Responsible for development of quality strategies and corporate policies for the executive leadership team

Additional Experience

2007-2008	Abbott Vascular (Quality Manager)
2003-2007	Raytheon (Quality Manager)
2001-2003	BAE Systems (Quality Manager)
2000-2001	C&D Aerospace (Quality Manager)
1986-2000	Boeing (Quality Engineer)
1976-1986	US Air Force (Captain)

27 Years of Experience

Extensive experience implementing continuous improvement tools

Education

Chapman University: Master of Science - Management 2004

Howard University: Bachelor of Arts - Communications Technology

Certifications

ISO Auditor

Six Sigma Black Belt

ITIL Certified

Initiative	Section	Category	Validating Information
Zone Plan	3	Innovative; Best Practice; Beneficial to Customers; Cost Efficient	Geographic segmentation of the system, aligned to support performance, safety and incident response.
Highly experienced, Boston-based Management Team	8.B	Innovative; Best Practice; Beneficial to Customers	Local and international experience is applied to operations to enhance quality, efficiency, reliability, and to continue to build a customer-centric, safety focused, organization.
Experienced Workforce		Best Practice; Beneficial to Customers	MBCR and its partners' have extensive experience with the unique demands of the workforce, and can guarantee an experienced, ready and able workforce on day one of the new contract.
Effective and experienced employee and labor relations	8.C.2		MBCR's experienced team successfully reached labor agreements with all 14 labor unions during two separate bargaining rounds

Summary

The depth of experience of our Executive Management team and its decade of accumulated knowledge about the MBTA's Commuter Rail are major differentiating factors for MBCR. Each of our leaders is committed to delivering superior performance for the MBTA and for riders of the Commuter Rail system—every day. Bonnie J. Murphy and the senior management team will lead a rigorous plan for improving training, the efficiency of our business processes, and Quality Assurance, all focused on continuing to improve service quality, safety, the customer experience and passenger information. We are dedicated to enhancing training, internal communication and culture building to ensure that all employees (not just the front line) focus on the impact of their actions on customers, whether cleaning and repairing a train, activating a web interface, implementing the next phase of mTicket, replacing track and ties or assisting a customer with special needs. Ingraining the commitment to "safety first, service always" at all levels and in all departments, as well as a relentless focus on quality, consistency and KPIs, are among the management team's central priorities.

Our new KPI Dashboard will allow everyone (including the MBTA) to know where our performance stands at any given moment, and will support people in taking immediate effective action. Our many innovations and continued strong performance will ensure that riders see and feel an improved experience at every step of their journey with us and in every interaction with our employees.

Thousands of residents of Greater Boston rely on us every day, and we take that responsibility very seriously. We are committed to being the best performing Commuter Rail system in the country and will build upon and deliver our innovations upon the successful foundation we have already established in our partnership with the MBTA.

Section 9 -
Information Technology
Services Plan

Section 9

Information Technology Evaluation Factor Information

MBCR

Section 10

Disadvantaged Business Enterprise Plan and Program Evaluation Factor Information

MBCR

Section 10 – Disadvantaged Business Enterprise Plan and Program Evaluation Factor Information

Overview

1. MBTA Objectives

A. Compliance with DBE goals and conducting extensive good faith efforts both externally and internally to do so

B. A developed and refined comprehensive DBE plan that complies with the Federal DBE program (49 CFR Part 26) and the MBTA's program requirements outlined in the RFP

C. Innovative strategies within the DBE plan that provide long-term solutions and directly address the goal of increasing DBE participation

D. Maintenance of open and productive communications with the MBTA's Office of Diversity and Civil Rights, ensuring that all progress made toward achieving the outlined DBE goals is captured in timely and informative monthly reports

MBCR is committed to ensuring that Disadvantaged Business Enterprises (DBEs) have a fair opportunity to provide goods or services required to operate the MBTA's Commuter Rail system. Within the next contract term, we will build on our strong track record of growing DBE participation as measured by the number of Tier 1 and Tier 2 DBE firms partnering with MBCR and the amount of expenditures with those subcontractors.

MBCR has demonstrated its continuing commitment to helping DBE firms grow enabling them to contribute to a thriving Massachusetts economy. We will continue with our strong DBE programs which further the MBTA's DBE and Diversity/Civil Rights Program. The MBTA's core philosophy of ensuring nondiscrimination of suppliers and contractors in the award and administration of contracts and procurements is aligned with MBCR's philosophy and goals, as you will see within our DBE Plan. Our Plan articulates our initiatives and good faith efforts to identify and contract with more DBEs throughout this next contract period.

2. MBCR Key Achievements

MBCR has over ten years of experience implementing our DBE Plan to meet our current contract goal of 11.5% DBE participation. We designed our Plan to be fully compliant with 49 CFR Part 26 and the MBTA's DBE Program. This has guided our procedures for reporting, recordkeeping, prompt payment and good faith efforts, as well as other requirements.

MBCR's Fiscal 2013 DBE participation rate of 18.3% of expenditures on goods and services far exceeds the MBTA's current goal of 11.5% and future goal of 15%.

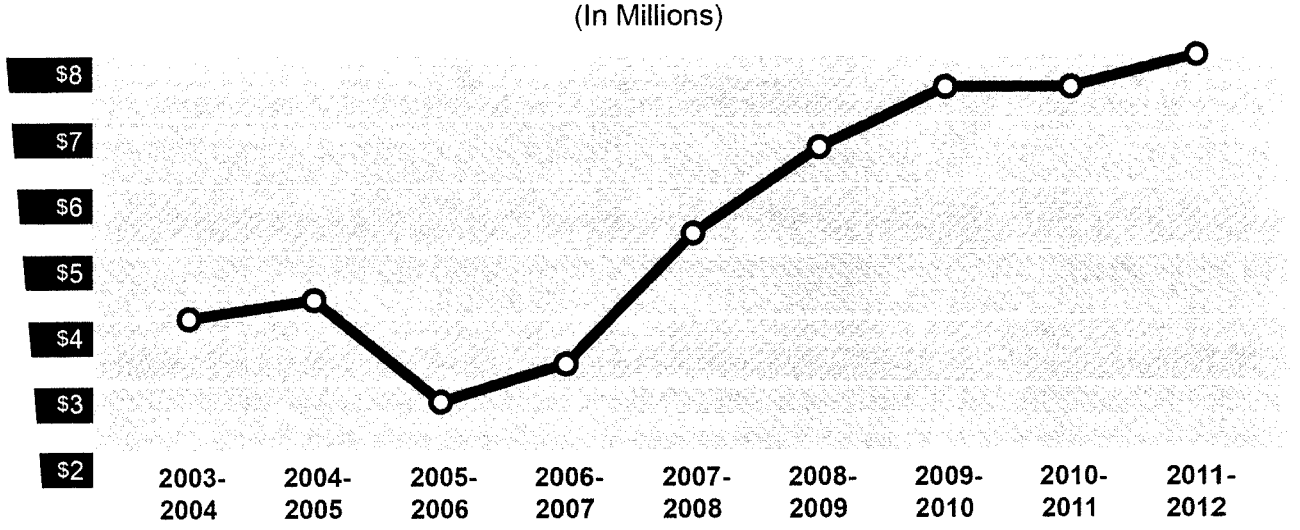
We attribute the successful growth of our program to the following five elements: (1) DBE Plan leadership – starting with our Management Team's advocacy and accountability; (2) articulation of clear goals and objectives detailed in our DBE Policy Statement; (3) training and awareness programs to guide employees on DBE regulations and program best practices; (4) engaging in outreach programs to identify DBE businesses; and (5) providing business development assistance to help DBEs compete for contracts, gain certification or expand services offerings.

These activities have been instrumental in growing MBCR's Fiscal 2013 DBE participation rate to 18.3% of expenditures on goods and services. This achievement far exceeds the MBTA's current goal of 11.5% and future goal of 15%.

We have worked with more than 80 DBEs throughout the Contract period, procuring approximately $60 million with these firms. We will maintain the activities and processes that have been instrumental to the success of our program, while re-energizing our plan with new strategic initiatives.

2012-2013 DBE PAYMENTS AS A PERCENT OF OVERALL GOODS AND SERVICES

	Jul 12	Aug 12	Sep 12	Oct 12	Nov 12	Dec 12	Jan 13	Feb 13	Mar 13	Apr 13	May 13	Jun 13
%DBE	17.4%	18.7%	17.7%	27.9%	13.3%	19.4%	19.4%	13.7%	19.0%	20.5%	16.9%	17.1%



3. MBCR Key Future Commitments

MBCR analyzes and reviews our DBE Plan every year to continuously improve and explore new best practices to attract and retain DBEs. For the next Contract, we will update our Plan so that it contains all of the processes and activities that worked well over the past ten years and imports new practices and methods to meet and exceed the MBTA's new participation goal. These include:

- Conduct extensive good faith awareness and DBE recruitment efforts both externally and internally using technology, internet marketing, webinars and training
- Establish DBE goals with our Prime Contractors to subcontract with and mentor DBE firms to build their capabilities and business viability and to expand the pool of qualified DBE firms
- Expand internal DBE training programs and reference material to drive awareness among new MBCR hires and train key managers with purchasing responsibility
- Consistently and transparently monitor, report and analyze DBE participation (broken down by firm and expenditure) on a monthly basis, including Prime and Tier 2 DBE subcontractors
- Continue open and productive communications with the MBTA Office of Diversity and Civil Rights, ensuring that all progress made toward achieving the outlined DBE goals is captured in timely and informative monthly reports
- Proactively engage in discussions with District Civil Rights Office (DCRO) if any problems arise in a DBE relationship
- Promote new Procurement Department online registration mechanism for DBE suppliers to opt in to receive notification and information related to all available contract opportunities
- Establish an ongoing partnership with National Insurance Consultants, Inc. (NICI) to assist DBEs with bonding, capital assistance education, access to insurance providers, and accounting training

Please Note: *This "T light bulb" icon will be used throughout this section, and the proposal, to identify our proposed innovations for the next contract period.*

Our deep experience and familiarity with the goods and services required for the operation of the Commuter Rail, as well as full executive support for efforts to develop and support DBE suppliers, will ensure MBCR's success in meeting the contract goal of 15% DBE participation throughout the entire term.

Disadvantaged Business Enterprise Plan and Program Information

10.A MBCR's Disadvantaged Business Enterprise Plan

MBCR recognizes that the MBTA's DBE Program is not exclusively about meeting a goal. It is about providing a level playing field, removing barriers, fostering relationships and developing traditionally underutilized businesses so that they can compete successfully. MBCR has designed and implemented our DBE Plan with these objectives in mind. For the next contract period, we will build on our existing DBE Plan that meets the requirements of 49 CFR Part 26, as well as the MBTA's DBE requirements.

> **"Being a DBE supplier to MBCR is a great opportunity for my small business. Members of the Procurement and Material Control group are extremely helpful in letting my business assist MBCR in maintaining successful operation of the Commuter Rail. They encouraged me to become DBE certified in 2007 to benefit both of our organizations. As MBCR meets or exceeds its DBE goals, my business thrives."**
>
> *Marlene J. Metrick, Metrick Manufacturing Company, Inc.*

Since 2003, MBCR has been committed to recruiting, developing and retaining DBE partnerships. With an extensive network and key relationships with the Massachusetts DBE community, MBCR is on track to meet and surpass the MBTA's DBE participation goal. The DBE Plan strategies and activities outlined below will be the focus of MBCR's efforts during the first three years of the contract; at that point, MBCR will prepare a comprehensive report analyzing our DBE results, including strengths and weaknesses of our approach, and outlining additional programs identified to complement the plan throughout the remainder of the contract period.

Our DBE Plan is comprised of four key principles:

1. **Implementation and Monitoring of Subcontracting and Supplier Strategy by:**
   - Applying the principles of our DBE Policy to all program activities
   - Providing Executive Leadership and high-level support for meeting DBE goals
   - Training our Equal Opportunity and Diversity Department (EOD), Procurement Staff, Managers and New Hires
   - Building awareness of the DBE Plan among MBCR staff and strong commitment from purchasing decision-makers
   - Breaking out portions of large subcontractor jobs to award smaller jobs to qualified DBE firms
2. **Procedures for managing, monitoring, and reporting on DBE participation, including record-keeping and prompt payment:**
   - Well-established processes between EOD, Accounts Payable and Procurement to capture and track DBE participation and payment information
   - Calculation of DBE participation percentage based on overall goods and services purchased and reported
3. **Ensuring a proactive and transparent partnership with the MBTA**
   - Regular meetings with MBTA counterparts to collaborate and brainstorm on approaches to achieve mutual goals
   - Provide opportunities for the MBTA to review and give feedback on procurement opportunities and solicitation goals
4. **Good Faith Efforts**
   - External outreach and networking
   - Invitation and encouragement of qualified DBEs in procurement opportunities
   - Documentation of all efforts
   - Encouragement and support for mentor-protégé relationships between Prime contractors and Tier 2 DBE subcontractors

10.A.1 Implementation and Monitoring of MBCR's DBE Subcontracting and Supplier Strategy

MBCR will continue to ensure our DBE subcontracting and supplier strategy is effectively implemented and monitored with measured and reported progress and performance. Most of the processes related to procurement and supplier relationships reside within the Procurement Department and are influenced by key decision makers within Engineering, Mechanical and other departments that rely on goods and services. During the current contract term, we have established access to DBE firms through the Supplier Diversity Office (SDO) and MBCR supplier database. We have also solidified procurement timelines and communication practices that ensure inclusion of DBE firms.

Our Leadership team will monitor and analyze our performance monthly. MBCR's Chief of EOD will lead any decisions to improve or correct deficiencies in our Plan with the support of our General Manager and Senior Management Team.

Our strategy and actions will continue to include:

- Holding monthly DBE Program team meetings to discuss supplier strategy and opportunities, operational needs, and to share referrals and word of mouth information
- Notifying DBEs of potential business and subcontracting opportunities with MBCR through website postings, email alerts and direct contact with DBEs listed in the SDO database
- Proactively reaching out to qualified DBEs to encourage them to participate in contracting opportunities
- Establishing guidelines in all Tier 1 contracts to pursue a DBE subcontractor strategy that meets or exceeds 15% DBE participation

MBCR's DBE Policy Statement

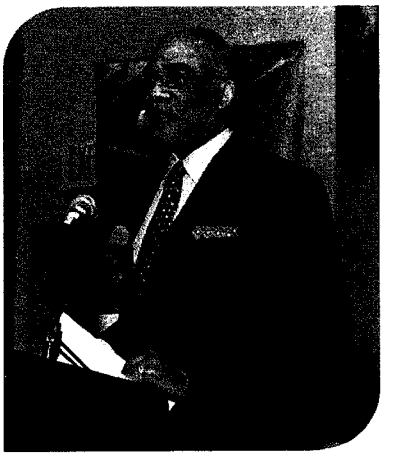
In order to meet the MBTA's objective of supporting equal access to contracting opportunities for DBE firms, MBCR's DBE Plan holds employees accountable for reviewing and understanding our DBE Policy Statement, which mirrors the MBTA's policy and outlines our commitment for including DBEs in our overall subcontracting plan. Our DBE Policy Statement is available to all vendors and employees online and through MBCR's EOD and Procurement Department. The key tenets of MBCR's DBE Policy include:

- Ensure non-discrimination in the award and administration of contracts by ensuring complete transparency of our recruitment, selection, and reporting processes
- Create a level playing field on which DBEs can compete for contracts and subcontracts relating to MBCR's operations, procurements and professional services by providing easy access to a list of all opportunities, as well as resources to assist DBEs in submitting a bid
- Ensure our DBE Plan is administered in accordance with federal and state law
- Ensure only eligible firms participate as DBEs by cross-referencing information in the SDO database and working with suppliers to confirm and update information
- Assist the development of firms so that they can compete successfully in the marketplace outside the DBE program

Leadership of MBCR's DBE Program

MBCR's DBE Plan success is contingent on the guidance, mentoring, and vision of our leadership. MBCR leadership, with the support of our Board of Directors and General Manager, will continue to assume an active role in nurturing an organizational culture that is conducive to understanding and implementing the DBE Program, including enforcing our DBE Policy Statement. MBCR's General Manager and Chief of EOD will:

- Participate in and provide high level support for internal training in the use and value of MBCR's DBE Program
- Support managers' efforts to establish and achieve DBE performance objectives for purchasing of supplies and services for MBCR
- Communicate MBCR's DBE program and performance commitments in written and verbal statements, to internal staff and external stakeholders



MBCR's Chief of EOD addresses guests at our DBE Outreach session

- Issue an annual "State of the DBE Program" report to all stakeholders
- Engage in other leadership activities and community outreach to increase DBE utilization
- Encourage Prime Contractors to subcontract with and mentor DBE firms to increase their involvement in the Commuter Rail contract and expand their capabilities

MBCR's Chief of EOD is the designated DBE liaison and, in coordination with all MBCR Managers and the Procurement Department, is responsible for the development, implementation and monitoring of the DBE Plan for contracts. We expect that all personnel will adhere to the spirit, as well as the provisions and procedures, of this plan.

MBCR Staff Training

An effective DBE plan requires education of all staff members that administer and oversee it, as well as personnel throughout the organization that are involved in or have influence over purchasing decisions. As part of the current DBE program, MBCR has conducted formal and informal training to build broader awareness and stimulate ideas. For example our internal training program titled "Doing Your Part" has been instrumental in acquainting Managers with DBE program goals and expectations. Going forward, we will revitalize our DBE awareness training module for all new MBCR employees as part of new hire orientation.

Following are examples of the continuing and proposed training programs and workshops that will ensure Purchasing and EOD personnel understand DBE regulations and program administration best practices and that all employees are aware of how they can help meet our DBE goals:

- Procurement Staff
  - Attendance at conferences, workshops and seminars offered by National Transit Institute (NTI), FTA, Volpe National Transportation Systems Center, MassDOT and other organizations (All Contract Managers have participated in NTI's DBE Training Program)
  - Internal department training given by the Procurement Manager; includes DBE overview and understanding of contract specifications (ongoing)
  - Reinforcement of DBE goals through ongoing awareness and weekly Procurement Department meetings (ongoing)
  - DBE goals reinforced through ongoing awareness and monthly DBE Program Team meetings with Department Managers (ongoing)
- Key Managers with Purchasing Decision-Making Authority
  - Internal DBE overview and understanding of contract specifications as part of new hire training (available upon commencement)
- All Managers
  - Manager Training Curriculum covering various leadership topics, including a module on our DBE program. Includes an annual refresher. (available upon commencement)
- EOD Staff
  - Participation in workshops, conferences and seminars when offered by the MBTA, MassDOT, NTI, Volpe or other local business organizations (ongoing)
  - Use of concepts from external workshops to train and motivate MBCR managers and staff on key DBE program elements (ongoing)
- All other staff/new hires
  - DBE awareness training module within New Hire Training (available upon commencement)

CHALLENGE

Continue to strengthen awareness and accountability from department managers and key purchasing personnel to support DBE goals.

Approach

EOD Staff attended Greater New England Minority Supplier Development Council (GNEMSDC) Training on "Selling Supplier Diversity Internally"

Concepts from this training inspired formation of the cross-departmental DBE Program Team in 2011, comprised of MBCR's General Manager, EOD liaison, Department managers and key Purchasing Department personnel.

Results

DBE Program Team meets internally on a regular basis to share DBE and subcontracting opportunities, brainstorm on changes to department policies or practices that encourage greater use of DBEs, and develop strategies for educating MBCR staff on DBE Program goals. MBCR's DBE participation rate grew 19% from fiscal year 2011 to fiscal year 2012 and continues to grow.

Internal DBE Program Awareness

Strong executive support and strategic influence from MBCR's General Manager, Procurement Manager, and Chief of EOD will continue to be instrumental in developing an organizational culture around inclusion of DBEs. To build internal commitment across departments, MBCR will build on its prior efforts to encourage purchasing through DBE suppliers and ensure that all employees understand how and why we work with DBEs.

- The DBE Program Team will continue to meet with Procurement staff and Department Managers to review procurement opportunities and potential services that could be performed by a DBE, including areas that have not historically utilized a DBE (such as accounting or landscape work).
- By commencement, MBCR EOD and Purchasing will develop a DBE Program Operations Guide for all MBCR departments. This will explain how a DBE program works, including applicable requirements of 49 CFR Part 26 and the MBTA Contract requirements.
- MBCR will continue to encourage employees throughout the organization to share "word-of-mouth" industry references and referrals of eligible DBEs with capabilities to provide required materials, equipment, supplies and services.

MBCR has also identified Key Performance Indicators (indicated in the table below) to measure our DBE subcontracting and supplier strategy performance and to enhance its transparency both internally and externally.

PERFORMANCE INDICATOR	DESCRIPTION	TARGET	ACCOUNTABILITY
Inclusion of DBEs in subcontracting opportunities	# of subcontracting opportunities made available to DBEs	100%	Procurement Manager, Key Department Managers
Involvement in outreach activities	Number of DBE networking/outreach events per year	1 External 2 Internal	Chief of Equal Opportunity and Diversity
DBE Tier 2 content in all Prime contractor opportunities	% of subcontractor and supplier services handled by DBEs	15%	Procurement Manager, Key Department Managers

Encouraging Partnerships to Help DBEs Grow Business with MBCR

MBCR Procurement staff and department managers with purchasing authority are aware of opportunities for DBE participation, and will routinely communicate those opportunities to the appropriate team member. By increasing exposure to those DBE companies that provide materials and services to the rail industry, as well as general professional services such as printing, accounting and architect services, we are more able to take advantage of those ideal DBE relationships.

MBCR will continue to seek innovative ways to be inclusive of DBE firms. During the existing contract term, we have been successful in separating designated portions of large jobs to award them to smaller DBE firms qualified to perform the work and will continue to look for other opportunities going forward. For example:

- Within our Environmental services, operation and maintenance of the Industrial Wastewater Treatment (IWWT) pretreatment system will continue to be performed by H&S Environmental Inc., a DBE, as a subcontractor to MBCR's Prime Environmental contractor ARCADIS, representing over $450,000 in contract expenditures for 2012.
- MBCR segmented a portion of a large printing contract and awarded it to 1-Stop Design. This led to further increases in business where 1-Stop Design is now one of our primary sources for printing and graphic design.
- MBCR broke out a segment of its signal cable requirements for purchase from Roxbury Electric.

Together, 1-Stop Design and Roxbury Electric represented over $300,000 in DBE spend in 2012.

> **"UTCRAC has had the privilege of working with MBCR since 2003 as a DBE supplier of Locomotive Passenger Car Wheel & Axle Assemblies. We have evolved into a very diversified organization because of opportunities given to UCTRAS by MBCR. MBCR has worked with us to help improve wheelset longevity & quality. MBCR has supported and mentored UCTRAS Manufacturing and Remanufacturing into a quality organization."**
>
> *Dr. Betty A. Scott, President, UCTRAS Rail Systems Group*

When MBCR enters into a subcontracting partnership with DBE firms, we make every effort to help businesses improve the breadth and quality of goods and services they offer. This helps DBEs compete in the rail industry and become increasingly viable. In the past, various MBCR DBE partners have "graduated" to a level of business viability at which they cease to be DBE-eligible. We consider this an indicator of success, as MBCR helps its DBE partners grow and improve business practices.

MBCR's subcontracting and supplier strategy, including the existing involvement of a broad group of DBE firms (at both the Prime Contractor and Tier 2 subcontractor level) is already in place and thriving. Going forward, we will focus our energy and resources on adding more DBE contractors and suppliers and growing expenditures and partnerships with existing DBEs. Instead of implementing our program from scratch, we are able to focus on incremental improvements through focused innovations and monitoring to ensure our plan is being successfully executed.

10.A.2 Procedures for Managing, Monitoring, and Reporting on DBE Participation

Managing, monitoring and reporting DBE participation starts and finishes with our General Manager. It is an all-inclusive approach that allows for necessary feedback to determine the effectiveness of our efforts and help with continuous improvement of the DBE Plan. The following processes involving MBCR's EOD, Procurement and Accounts Payable Departments provide transparent feedback to MBCR and the MBTA.

Managing

MBCR's EOD Department has the responsibility to manage our DBE program, with oversight directly from the General Manager. We adhere to 49 CFR Part 26 regulations and requirements, and we invite the MBTA to access our records of expenditures, invoices and agreements and to audit our program at any time during the contract duration.

Monitoring

MBCR has established an effective process to monitor DBE participation and payments. DBE vendors are flagged on the Vendor Master list within MBCR's Accounts Payable department, and an automated process extracts those Tier 1 expenditures to a DBE report on a monthly basis. EOD staff monitor payments from Tier 1 and Tier 2 DBE contractors and collect this data to include in monthly DBE reports.

Reporting

The EOD Department is responsible for analyzing and reporting on the DBE Program and communicating MBCR's progress towards goals. Each month, we report all payments to DBEs by vendor to the MBTA, while our monthly EEO/Civil Rights reports include a narrative outlining MBCR's initiatives and efforts (i.e., outreach, training, DBE support, and good faith efforts) to build support and increase DBE participation. This reporting will continue and will include:

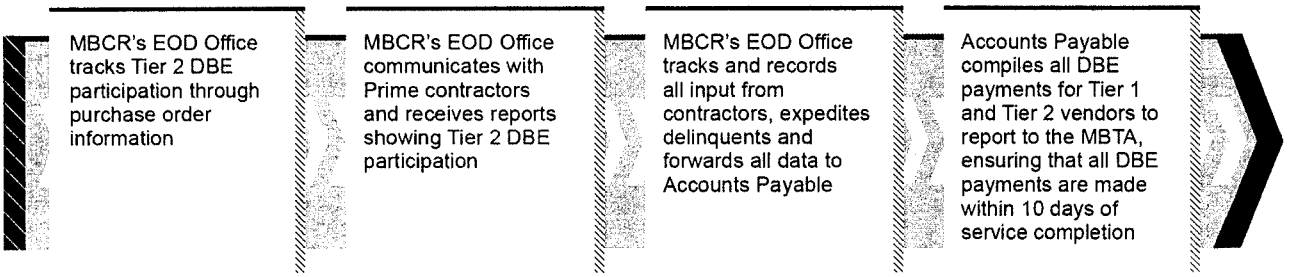
- Expenditure with each Tier 1 and Tier 2 DBE firm for the month and year-to-date
- Total value of expenditures with DBE firms for the month and year-to-date, expressed in dollar amounts and as a percentage of overall expenditures on goods and services
- Total value of expenditures with DBE firms from inception of the Agreement

Tier 2 DBE Participation, Monitoring and Reporting

For each contract MBCR issues, whether culverts, cleaning, or any other, MBCR requests and proceeds with bids that include Tier 2 DBE subcontractors in their proposals.

- Contractors that do not include Tier 2 DBEs are requested to explain the conditions that preclude DBE content.
- Bids or proposals not demonstrating reasonable effort to include DBE subcontractors or suppliers are further reviewed and possibly disqualified for not demonstrating good faith efforts to include DBE participation.

MBCR's Manager of EOD communicates with Prime suppliers and contractors to explain its DBE subcontractor reporting process:


MBCR's EOD Office tracks Tier 2 DBE participation through purchase order information
MBCR's EOD Office communicates with Prime contractors and receives reports showing Tier 2 DBE participation
MBCR's EOD Office tracks and records all input from contractors, expedites delinquents and forwards all data to Accounts Payable
Accounts Payable compiles all DBE payments for Tier 1 and Tier 2 vendors to report to the MBTA, ensuring that all DBE payments are made within 10 days of service completion

We are committed to auditing payments to Tier 2 DBE subcontractors to ensure actual amount paid to DBE subcontractor equals what was stated in the proposed DBE participation.

10.A.3 Interfacing with the MBTA to Ensure a Proactive and Transparent Partnership

MBCR has worked in successful partnership with the MBTA over the last decade to achieve and exceed the DBE participation goal. To build on this relationship, MBCR proposes a more deliberate and ongoing conversation that shares knowledge and resources to find and utilize qualified DBE firms. MBCR's Chief of EOD will meet monthly with MBTA counterparts to report on our initiatives to expand and diversify DBE participation, to collaborate on specific procurement goals and challenges, and brainstorm on creative approaches to help both organizations overcome challenges and achieve mutual goals. In addition to MBCR's monthly report submissions outlined above, MBCR's Chief of EOD will work towards an open, mutually supportive relationship with MBTA officials, characterized by information sharing, brainstorming and cooperation to resolve concerns.

Compliance Monitoring and Reporting to the MBTA

MBCR demonstrates its compliance with all requirements of 49 CRF Part 26 in the award and administration of procurement contracts, and the MBTA's DBE Program Requirements. MBCR's EOD staff will continue to prepare monthly reports that track progress toward fiscal year goals and contain payment information for each DBE MBCR has done business with. Additionally, our Equal Employment Opportunity (EEO)/Civil Rights report, also prepared monthly, documents our outreach, training, and DBE support efforts to reach our goals. These reports will be the basis for MBCR/MBTA discussion and brainstorming on how to augment MBCR's DBE Plan to expand partnership opportunities and DBE participation.

Dispute Resolution and Proposed DBE Termination, Substitutions and Replacements

MBCR seeks to amicably resolve disputes relating to the operation of the DBE program. In situations involving MBCR's decision to terminate a Tier 1 DBE vendor relationship, or engage a substitute or replacement firm to do the work, MBCR will proactively share details with the MBTA to ensure full

transparency. MBCR will also work with the District Civil Rights Office (DCRO), if appropriate, to attempt to resolve conflicts and avoid terminating DBE contracts. MBCR will inform the MBTA of the necessity to terminate any Tier 1 DBE, and MBCR will make every effort to replace the firm with another DBE firm as required by 49 CFR Part 26. We will adhere to the following procedural steps:

- MBCR will first provide written notice to the Tier 1 DBE subcontractor, copying the MBTA, of our intent to terminate the subcontract, including our reason for the termination.
- Based on the MBTA's RFP requirement, we will give the DBE subcontractor five days.
- MBCR will adhere to 49 CFR Part 26.53(f) when evaluating whether good cause exists to terminate a Tier 1 DBE subcontractor.

Pre-Solicitation Review of Subcontracting Goals

As part of our envisioned relationship and communication with the MBTA, MBCR's EOD office will share information and receive feedback on procurements and other elements of its DBE program. We will also give the MBTA opportunities to review solicitation goals as we are inviting bidders to participate. MBCR welcomes a productive dialogue and recommendations for qualified DBE firms that can provide work or materials needed by the railroad.

10.A.4 Good Faith Effort Procedures

MBCR will host at least one offsite outreach information session per year

Through the combination of outreach, support, internal training, and procurement inclusion activities detailed earlier in this section, MBCR leaders are confident we will exceed the MBTA's goal of 15% DBE participation. MBCR proactively reviews areas of the contract that can be outsourced to a DBE, whether goods or services. This includes building in ample time in the procurement schedule for DBE outreach, inquiry and response, as well as confirming interest of DBEs that have been invited to bid on a contract. Prior to a bid closing date, the Procurement Department follows up with DBEs through phone calls and emails to discuss their interest and ability to provide the goods and services we need. In addition to encouraging maximum DBE participation, this approach gives us the opportunity to educate firms about our business while ensuring that we are addressing any questions or concerns they may have.

Outreach and Networking

MBCR will structure outreach and procurement inclusion efforts to seek broad DBE participation across as many business segments as possible, provided that DBE firms are available and qualified to perform services required by the Commuter Rail. To help expand our proactive communication efforts, MBCR Procurement is establishing a mechanism for DBE firms to sign up to receive information and email alerts about MBCR procurement opportunities. MBCR is also committed to hosting at least one offsite outreach information session per year for prospective DBE partners, as well as several internal networking events in which DBE firms will be invited to present their services to relevant MBCR departments and receive feedback.

January 2013 DBE Outreach Event, hosted by MBCR

MBCR and its partner firms, ACI, Bombardier and Veolia, are all corporate members of APTA and COMTO, and we participate in networking and trade shows through community organizations such as GNEMSDC, Massachusetts Minority Contractors Association (MMCA) and Women in

Transportation (WIT). In addition, our Chief of EOD is a member of COMTO and MMCA. These networking events provide opportunities to learn about qualified DBEs and program best practices, and to meet with DBE representatives.

Our tri-level approach to procurement opportunities ensures good faith effort procedures are carried out to include DBEs in all phases of subcontracting and the purchase of general goods and services. As highlighted below, this approach outlines the systematic practices we will employ before, during and after contracts are awarded to ensure we make every effort to contract with a qualified DBE.

- Every requirement is first analyzed by our Material Planning Manager for possible sourcing via a DBE
- The second level lies with the Contract Manager or Buyer, who will actively search the SDO and MBCR databases for potential suppliers.
- The Manager of Procurement carries out a third and final review to critically analyze the buying decision(s) for complete adherence to the DBE process.

The following steps outline our Good Faith Efforts approach:

Identify

- Conduct internal monthly meetings with departments such as Engineering, Environmental and Mechanical, to identify specific opportunities to engage a DBE
- Review scope of subcontracting work to identify opportunities to break up contracts into smaller projects to facilitate DBE participation
- Host an annual DBE outreach session to meet business representatives from the community, learn about firms that provide services we need, and share information about MBCR opportunities
- Host multiple mini-outreach sessions, inviting qualified DBEs to present their services to relevant MBCR departments (Engineering, Mechanical, Legal, etc.)

Promote

- Encourage DBE businesses to register for MBCR's automated email notification system to receive alerts and information about MBCR procurement activities
- Distribute brochure outlining how MBCR's DBE Program works

Search

- Review our DBE database and networking connections; seek recommendations from industry connections and knowledgeable staff
- Search the SDO DBE directory; specifically search keywords and specific NAICS codes to identify unknown suppliers that have the potential to participate

Invite

- Based on results of search activities, send invitations to potential qualified DBEs to participate; include sufficient time to ensure they are able to respond
- Communicate the specific time line and procurement rules and details so that DBEs have plenty of opportunity to respond before awarding any contracts

Mentor

- Identify any opportunities for mentor-protégé partnerships with established Contractors and communicate opportunities to DBEs
- Promote available MBCR and partner support services for firms that need help with bonding, bidding strategies, or other technical assistance

Follow up

- MBCR Procurement department follows up with a phone call or email prior to a bid closing date, verifying receipt of invite and encouraging DBE participation

Document

- Fully document each contact with potential DBE participants
- If a DBE is not selected, document reasons why, capture and store information
- All contracts with Federal funding that have a goal attached to it will be documented to capture and store all good faith efforts, as required by 49 CFR Part 26

Within this review process, MBCR will also look for subcontracting and outsourcing opportunities that can be divided into smaller scope projects where DBEs can bid competitively against other firms. Similarly, MBCR Procurement will explore contracts that are suitable for mentor-protégé arrangements and encourage Prime contractors to partner with and support a DBE to execute a portion of the work. This can take the form of a consortium or joint venture of businesses, at least one of which is a DBE that bids as a Prime contractor. The staff involved in the tri-level approach to evaluating procurement decisions will consider all of these potential arrangements in our efforts to include DBEs.

MBCR nurtures DBEs to ensure a thriving partnership

Manufacturer's Warehouse, an out-of-state DBE, provides synthetic lubricants that are environmentally friendly and cost effective substitutes for petroleum-based products.

MBCR's EOD office guided the firm through the lengthy application process to achieve certification with the Massachusetts Supplier Diversity Office (SDO) by obtaining the DBE application, connecting the vendor with the specific SDO staff responsible for expediting the application and supporting the firm through each step along the way. Manufacturer's Warehouse is now a critical MBCR supplier, providing $12,960 in materials to date for FY 2013.

To ensure the broadest possible participation of Tier 2 DBEs going forward, MBCR will review existing contracts with Prime Contractors and, upon renewal, identify opportunities and contractual language to include a stronger DBE expectation for Tier 2 subcontractors, including clear expectations and accountability.

10.A.5 Technical Assistance Initiatives Available For DBEs and Small Business Enterprises (SBEs) Seeking To Do Business with MBCR

MBCR's EOD office provides assistance to both existing DBEs and businesses seeking to gain DBE certification. Our goal is to formalize and promote our services to advise, assist and coach businesses through the SDO DBE certification process, as well as through the competitive bid/pricing process to become DBE suppliers to MBCR.

- MBCR has partnered with NICI, an established DBE firm, to provide networking assistance and guidance to help DBEs overcome limitations such as bonding, financing or technical assistance. This includes access to providers of insurance and accounting training.
- MBCR EOD staff will provide technical assistance to orient DBEs to contract procedures and facilitate introductions to MBCR's contracting activities. For instance, MBCR will invite specific DBE's to "mini outreach" sessions with individual departments to present their services, receive feedback and gain a better understanding of how to partner with MBCR.
- MBCR will encourage all Tier 1 Contractors to provide mentoring to DBEs through targeted partnerships or contracts to perform portions of the service.

MBCR understands the need for DBE firms to have support on many fronts, and we have designed workshops for the DBE community. Starting upon commencement of the next contract, the following workshops offered by NICI Inc. are available to support DBE firms, as well as MBCR and its Prime contractors that work with DBEs:

- Bonding 101: How to Get A Bond And Keep a Bond
- Access to Capital and Credit: Bank Underwriting and Loan Packaging

- Understanding & Using Your Financial Statements
- Estimating and Bidding Workshop
- Construction Accounting and Financial Management Workshop
- Contractor Claims and Dispute Resolution Workshop
- How to Joint Venture, Mentor-Protégé Workshop

10.B DBE Utilization Certificate

MBCR's DBE Utilization Certificate is contained in the Attachment to this Section 10.

10.B.1 DBE Participation Schedule

MBCR's DBE Participation Schedule is contained in the Attachment to this Section 10.

10.C DBE Letters of Intent

MBCR's Letters of Intent are contained in the Attachment to this Section 10.

10.D Certification Letters

MBCR's Certification Letters are contained in the Attachment to this Section 10.

10.E Original DBE Affidavits Regarding Change in DBE Status

MBCR's Original DBE Affidavits Regarding Change in DBE Status are contained in the Attachment to this Section 10.

10.F Documentation of Good Faith Efforts

In accordance with the good faith efforts provisions contained in 49 CFR Part 26 and its Appendix A to Part 26 entitled "Guidance Concerning Good Faith Efforts," MBCR is providing factual evidence of the following:

10.F.1 Outreach session, including the agenda, roster of attendees, and indication of where the outreach session was noticed

MBCR conducted an outreach session with DBE suppliers and subcontractors to facilitate introductions to MBCR Management and promote opportunities to do business under the scope of the next operating agreement. This event, attended by more than 100 business representatives, took place on January 31, 2013 at the Holiday Inn, 30 Washington Street, Somerville, MA. The entire list of Massachusetts certified DBEs were notified through emails on January 6th and January 17th 2013. Additionally, we used print media (see 10.F.3), to ensure all DBEs and firms looking to be certified as a DBE were aware of the session.

Outreach Session Agenda

- **Safety Briefing** by the Director, Safety and Security
- **Facilitator Remarks and Introductions** by the Chief of Equal Opportunity and Diversity
- **Welcome Remarks** from the General Manager
- **Office of Equal Opportunity and Diversity Outreach Overview** by the Chief of Equal Opportunity and Diversity

- **MBCR Procurement Overview** by the Manager, Procurement & Material Control
- **Accounts Payable Overview** by the Manager, Accounts Payable
- **Partner Experience**

  Frank Ursone - President, UTC/RAS and Christine M. Hennigan, Principal/Creative Director, 1-Stop Design Shop, Inc.

- **Next Steps**

  Chief of Equal Opportunity and Diversity

Session Attendees

First Name	Last Name	Company
Christine	Hennigan	1-Stop Design Shop
Clarence	Walker	A Clean Sweep Property Maintenance, Inc.
Marcia	Berger	ABC Soils, Inc.
Kathleen	Redlund	Acorn Recording Solutions, Inc.
Reginald	Walters	Advanced Engineering Design(AED)
Avani	Sanghvi	Advans
Basil	Bantimba	AI Engineers, Inc.
Ed	Jordan	A-Plus Welding & Engineering
Michael	Ferguson	Arch Professional Group, Inc.
Charles	Bradley	Arch Professional Group, Inc.
Belinda	Luscinskas	Bell Associates
Beverley	Johnson	Bevco Associates, Inc.
Gary	Hamilton	Bryant Associates
Jeffrey	Bryant	Bryant Associates
PO-Shang	Chen	C&C Consulting Engineers, LLC
Calvin	Brandford	C.H.B. Excavating
Carole	Waksler	C.J. Associates, Inc.
Carlene	Lewis	CAAN Fence, Inc.
Ed	Lambert	CAAN Fence, Inc.
Joanne	Scannell	CDW Consultants, Inc.
Joseph	Nolan	City Point Partners
Colleen	Moore	City Point Partners
Elvia	Thermora	Citywide Office Supplies & Cleaning Service

Holly	Santangelo	Clean Properties, Inc.
Mary	Cleary	Cleary Consultants, Inc.
Lucner	Charles	Coastal Construction & Mgmt
Jessica	Cajigas	Comprehensive Environmental Incorporated
Kevin	Gould	Conover + Company
Michael	Beaton	Contemporaries, Inc.
Stephen	Beck	Con-test Analytical Laboratory
Theresa	Ferrentino	Con-test Analytical Laboratory
Kathleen	Ferguson	Controlled Systems HVAC, Inc.
David	Brown	Daven Corporation
Mike	Brown	Daven Corporation
Rod	Dewey	Dewey Pest & Wildlife
Susan	Pappas-Gregory	Diesel Electrical Equipment, Inc.
Scott	Webster	Done Right Building Services
Tom	Wilkie	Electrical Safety Products
Mary Jo	Glynn	Ferreira Towing, Inc.
Farooq	Siddique	FS Engineers
Keith	Castle	Green Castle Business Solutions
Frank	Tramontozzi	Green International Affiliates, Inc.
Stacey	Lee	H&S Environmental, Inc.
Willie	Hicks	Hicks Auto Body, Inc.
Emily	Holmberg	Holmberg & Howe
Celeste	Wunder	IMMI International
Glenn	McGeoghegan	Innovative Safety Services, Inc.
Joann	Mikulsky	J. Mikulsky Railway Supply Co., Inc.
Vincent	Williams	Jazzy Sportswear
John	Cruz	JC Electric, Inc.
Marsha	Harris	JME Corporation
N. L.	Keene	Keene Consulting Agency, Inc.
Kelly	Chunn	Kelly Chunn & Associates
Suma	Greenwald	Leslie Saul & Associates

Deborah	McSorley Kery	McSorley Kery Design(MK Design)
Marlene	Metrick	Metrick Manufacturing Company, Inc.
John	Mikulsky	Mikulsky, LLC
Marion	Driscoll	MLD Services
Alan	Castaline	MLD Services
Nancy	Hughes	OHS Training & Consulting
Taisha	Crayton	Premium Property Solutions
Russell	Moresi	Prime Engineering, Inc. (PEI)
Jean	Joseph	Print & More Associates
Golam	Mustafa	Pristine Engineers, Inc.
Diane	Talbot	Quadrant Health Strategies, Inc.
Ilene	Mason	Rethinking Power Management, LLC(RPM)
Dennis	Callahan	Richard W. Reid Electrical Company, Inc.
Keith	Cunha	Richard W. Reid Electrical Company, Inc.
Lena	Walsh	RL Controls
Leo	Dirrane	RM Engineering, Inc
Rachel	Moran	RM Engineering, Inc
Patricia	Tierney	Roxbury Electric
Stephen	Sakakeeny	Sak Environmental, LLC
Charles	Samiotes	Samiotes Consultants, Inc.
Sharleen	Givens	Sharleen's Beauty Secrets
Matthew	Perry	Sigma Systems, Inc.
Michele	Simons	SimosConsulting, Inc.
Sarah	McRell	Skycom Courier
Michele	Simos	SMART Conversations
William	Netter	Supplies Exchange Systems
David	de Sola	T H R i V E
Herby	Duverne'	Taino Consulting Group
Reinier	Moquete	Taino Consulting Group
Tonya	Johnson	The Ancient Bakers
Thomas	Blount	The Blount Group

Nicole	Richer	The Compliance Mentor Group, LLC
Heidi	Scheller	Trilogy Insurance Group
Marvin	Thomas	Triunity Engineering & Management
Russell	Deason	Triunity Engineering & Management
Patrick	Garrett	United Stone and Site, Inc.
Eric	Stager	Unity Environmental Technologies, LLC
Doreen	Blades	US Eco Products Corporation
Frank	Ursone	UTCRAS
Surendra	Vaidya	Vaidya Consultants, Inc.
Joe	Spencer	Vaidya Consultants, Inc.
Carlos	Vizarreta	VSB Contracting Corporation
Warley	Williams	W. J. Williams Construction
Robert	Fushi	Wayside Professionals, Inc.
Denise	Dunne	Wayside Professionals, Inc.
Julie	Mosher	William G. Moore & Sons
Margarita	Wilson	Wilson Cleaning Company
Charles	Wilson	Wilson Cleaning Company
Jill	Desfosses	Workplace Essentials
Marlene	Scott	Workplace Essentials

10.F.2 Written notification to DBEs encouraging participation in the Contract

Throughout the procurement process, we utilized multiple communication channels to encourage DBE participation in the provision of Commuter Rail goods and services. Our integrated campaign to reach DBEs included the following:

- Print advertising in local business and trade publications (detailed in Section 10.F.3)
- Emails to 939 business contacts listed in the SDO and MBCR databases, including contacts gathered from the MBTA's fall 2012 DBE seminar
- Information posted on the MBCR.net website
- Calling campaign to over 500 Massachusetts SDO-certified DBEs to follow up on emails, ensure businesses received information from the Contract and were encouraged to participate

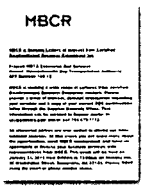
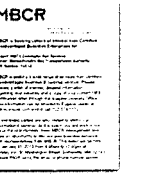
The print advertisements and emails contained the following information:

"MBCR is seeking a wide range of services from certified Disadvantaged Business Enterprise vendors. Please provide a letter of interest, detailed information regarding your services and a copy of your current DBE certification letter through the Supplier Diversity Office.

All interested parties are also invited to attend our informational seminar. At this event, you will learn more about the opportunities, meet MBCR management, and have an opportunity to discuss your business services with representatives from MBCR."

10.F.3 Soliciting through all reasonable and available means (e.g., attendance at pre-proposal meetings, general circulation media, trade association publications, minority-focused media) the interest of all certified DBEs that have the capability to perform under the Contract

MBCR also created a print advertising plan and solicited DBE interest and involvement through a broad range of media and trade publications including the Bay State Banner, El Mundo, Boston Business Journal, and The Boston Herald.

Publication / Run Date(s)	Description	Coverage	Size
Bay State Banner **Contact:** Rachel *ads@bannerpub.com* **Runs:** Thurs. 1x, Jan. 17th	An African American owned news weekly that reports on the political, economic, social and cultural issues that are of interest to communities of color in Boston and throughout New England.	Distributed through subscriptions; newsstands and street boxes (located in the Roxbury, Dorchester, Mattapan, South End, Jamaica Plain, Roslindale, Cambridge, Hyde Park, Brockton, Randolph, Worcester and Springfield areas).	**1/4 page** 5.933" w x 7.792" h 
El Mundo **Contact:** MaryAnn *617-522-5060* *maryann@elmundo.com* **Runs:** Thurs. 1x, Jan. 17th	El Mundo is the largest, and longest-running Spanish-language publication in New England.	Allston, Boston, Brighton, Brockton, Cambridge, Chelsea, Dorchester, East Boston, Framingham, Hyde Park, Jamaica Plain, Lawrence, Lowell, Lynn, Mattapan, Quincy, Revere, Roslindale, Roxbury, Salem, Somerville, Waltham	**1/8 page** 5" w x 3.7" h
The Boston Herald **Contact:** Jeff Buckman *617-619-6192* **Runs:** Bizsmart section 2x Thursday, Jan. 10th and Jan. 24th	The Boston Herald is a daily newspaper whose primary market is Boston, Massachusetts, United States, and its surrounding area.	Daily 124,257 (See coverage map).	**2" x 4" =** 3.25" w x 4.2" h 
The Boston Business Journal	The Boston Business Journal is the premier media solutions platform for companies strategically targeting business decision makers.	Division of American: "We have more people, publications and websites covering our nation's business than any other business media organization."	**2" x 3" =** 3.2778" w x 3" h

MBCR also sent information to the Conference of Minority Transportation Officials (COMTO), Women in Transportation (WIT), the American Public Transportation Association (APTA) and Massachusetts Minority Contractors' Association (MMCA).

We will continue to leverage these organizations and their networking events to encourage DBEs to participate in any current or future MBCR solicitations.

10.F.4 Selecting portions of the Contract to be performed by DBEs in order to increase the likelihood that the DBE goal will be achieved. This includes, where appropriate, breaking out work into economically feasible units to facilitate DBE participation, even when the Proposer might otherwise prefer to perform this work with its own forces:

As a result of our good faith efforts, we have recently made a major change in our supplier of heating oil and on-road vehicle fuel. Specifically, MBCR has broken out a significant portion of this contract and directed it to East Coast Petroleum, a DBE supplier. This change represents an annual potential expenditure of $500,000 in goods and services that otherwise would have gone to our non-DBE supplier of fuels and lubrication oils.

MBCR also broke out a portion of its existing Pest Control contract with A1 Exterminators and subcontracted with Dewey Pest & Wildlife to provide services at Depot Street, Union Street and Braintree, starting on July 1, 2013. This gives Dewey, a certified DBE, an opportunity to participate as a subcontractor for a portion of our Environmental services.

MBCR's Procurement team is completing arrangements to identify portions of contracts to be assigned to DBEs, such as the provision of:

- Lubrication oils
- Landscaping (we have designated $300,000 annually for a DBE contractor)
- Cleaning Services
- Snowplowing (we have designated $200,000 annually for a DBE contractor)

MBCR recently selected American Green Building and Seoane Landscaping Design, Inc., both certified DBEs, to provide Landscaping and Snowplowing services for the Engineering Department.

10.F.5 Providing interested DBEs with adequate information about the Contract in a timely manner to assist DBEs in responding to a solicitation

During the response period MBCR solicited over 500 Massachusetts SDO certified DBEs by telephone, offering them information regarding the Contract. These calls were completed by March 15, 2012. The goal was to alert businesses about potential opportunities available in the next Operating Agreement and to solicit their interest in working with MBCR. As highlighted above, we also planned and executed an Outreach Session less than eight weeks after the final Request For Proposals was issued by the MBTA. This ensured timely information to all DBEs and potential DBEs.

10.F.6. Negotiating in good faith with interested DBEs.

Through our DBE Program Team, we identified new and existing contract services that would be suitable for a DBE participant. Leveraging business contacts from MBCR and SDO databases, as well as the participants from MBCR's outreach session and our extensive emailing and calling campaigns, our procurement staff and Department managers targeted DBE firms to solicit information about their services and qualifications and to describe the nature of the work required by the contract. For those firms whose services were compatible with MBCR's needs, we worked to estimate the contract value and a suitable scope for those DBEs to perform the work.

The following DBEs have been added to our DBE participation Schedule as a result of solicitation, the Outreach Session, review meetings, and brainstorming sessions:

Name	Address/Phone	Products/Services	NAIC Code
American Green Building Services, Inc. Contact: Mr. Ariel A. Peguero	190 Milton Street Dedham, MA 02026-2902 Phone: (781) 461-2500	Snowplowing and Landscaping	561720, 561730, 561740, 561790, 238330, 238160, 237310, 238320, 238140, 424690, 541690
Central Electrical Specialty, Corp. Contact: Ms. Kristin Stadelmann	P.O. Box 7040 Brockton, MA 02303 Phone: (508) 586-4000	Commercial and Industrial Electrical Supplies	423610
ChangeWorks Consulting Contact: Patti DeRosa	P.O. Box 156 Roslindale, MA 02131 Phone: (781) 986-6150	Training, Diversity Training and Consulting	611430, 611710
Dewey Services Corp. Contact: Mr. Rodney Dewey,	Condon Way Hopedale, MA 01747 Phone: (508) 473-1800	Pest Control Services	561710
JM Environmental Corporation, Inc. Contact: Ms. Marsha Harris	1280 Grafton Street Worcester, MA 01604 Phone: (508) 757-7782	Removal of Hazardous Waste	541620, 562910
Peter Environmental Consulting, LLC Contact: Ms. Tracy A. Peter	P.O. Box 1336 Newburyport, MA. 01950 Phone: (978) 764-7101	Environmental Consulting Services, Wetland Permitting, Wetland Delineation, Natural Landscape Design	541690, 561730, 541620
Russell Cress Co., Inc. Contact: Mr. Russell Cress	P.O. Box 132 Monroe, NY. 10949 Phone: (201) 488-7111	Signs and Frames for Commercial Advertisement and Mass Transit	339950
Seoane Landscape Design, Inc. Contact: Mr. Luis A. Seoane	551 Bedford Street North Abington, MA 02351 Phone: (781) 878-1306	Snowplowing, Landscaping	561730, 424930, 238990, 423320, 444220

10.F.7 Making efforts to assist interested DBEs in obtaining bonding, lines of credit or insurance, as required by the Proposer

MBCR has contracted with a national firm that has over 18 years of experience in bonding and financial assistance to small and disadvantaged businesses.

During our outreach session and throughout the procurement process we alerted all DBEs and potential DBEs of our partnership with NICI and the services offered.

Headed by former COMTO DBE Advisor and Board Member, Herman Ross, National Insurance Consultants, Inc., (NICI) has provided similar services to The Commonwealth of Virginia, Dallas/Fort Worth International Airport and The Denver Transit Partners/ Denver RTD. Mr. Ross is a licensed insurance agent and also has a team of financial planners, bankers and accountants that regularly provide bonding assistance, financial assistance and accounting practices to small and DBE businesses nationwide.

10.F.8 Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services

NICI has also been instrumental in recommending bankers and lending institutions that can and will assist our small business and contracting community with loans for equipment, supply, materials, and start-up or mobilization costs if necessary.

10.F.9 Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis

MBCR is proud of its internal approach and its leadership in the community by effectively reaching out to all local, state and federal minority/woman organizations. With the assistance of NICI, we are demonstrating our enhanced commitment to the DBE community both locally and nationally. MBCR and the MBTA operate in a global economy, and some of our local firms do not have the capacity or qualifications to perform work on the large scale that we require. Our approach is to bring the best services to MBTA, and we will continue to encourage local and national DBE firms to participate in our procurement and solicitation process. MBCR will do so in the most proactive, innovative and creative ways possible.

Factual Evidence Overview	
Number of different NAICS codes used to develop target list	83 Different NAICS Codes in Target List
Number of new NAICS codes MBCR is not doing business with	35 NAICS codes
Number of emails sent to businesses/contacts	2,406 emails sent to 939 businesses and 939 contacts
Number of Campaign Messages	3 Campaign messages sent via 2,406 emails to 939 business and 939 contacts
Percent of potential DBEs that opened each email campaign	Opens Per email (1) 46.7% (2) 25.7% (3) 41.2%
Number of calls/follow up phone calls/Average Talk Time	359 Calls and 53 Follow-up Phone Calls--Avg Talk Time - 5 minutes

Factual Evidence Overview	
Number of DBE Businesses who attended the outreach session	106 attendees from 90 DBE Businesses attended the outreach event
Number of current DBEs who attended Outreach session	23 Businesses in attendance were on MBCR's DBE list (have done business with or bid on business)
Number of new DBEs who attended Outreach session	67 new DBE Businesses in attendance
Number who could not make it but followed up with MBCR	51 Companies did not make the seminar but followed up with us by phone, email and/or sent a letter of interest/DBE Certificate and/or statement of capabilities

10.G Best Practices Support

Initiative	Section	Category	Validating Information
Issue an annual high level "State of the DBE Program" report to all stakeholders	10A	Best Practice	Transparent communication of DBE program successes, challenges and opportunities. Contributes to a spirit of cooperation and continuous improvement
Attendance at conferences, workshops and seminars offered by National Transit Institute (NTI), FTA, Volpe National Transportation Systems Center, MassDOT and other organizations	10A	Best Practice	Ensures our Procurement and EOD staff remain abreast of best practices, new ideas and success stories to import into our DBE program
DBE goals reinforced through ongoing awareness and monthly DBE Program Team meetings with Department Managers	10A	Best Practice	Keeps DBE program goals front and center for Department Managers with purchasing decision responsibilities; ensures MBCR is looking for opportunities to use DBEs across all areas of the organization
DBE awareness training module within New Hire Training	10A	Best Practice	Communicates DBE Program and goals to all new hires, to create understanding and shared commitment
Development of a DBE Program Operations Guide for all MBCR departments. This will explain how a DBE program works, including applicable requirements of 49 CFR Part 26 and the MBTA Contract requirements.	10A	Best Practices	Tool to communicate MBCR DBE program basics and commitments across the organization

Initiative	Section	Category	Validating Information
MBCR Procurement has established a mechanism for DBE firms to sign up to receive information and email alerts about MBCR procurement opportunities	10A	Innovative Best Practice	Use of technology to efficiently network with DBE firms, create awareness for opportunities, and expand good faith efforts to partner with DBEs
Development of a robust database including DBE contacts, NAICS codes, correspondence, flyers and informational material, references and more	10A	Innovative Best Practice	Powerful networking tool that will expand our ability to identify DBEs, capture and store information and demonstrate good faith efforts
Host annual DBE outreach sessions	10A	Best Practice	Proactively meet business representatives from the community, learn about firms that provide services we need, and share information about MBCR opportunities
Host mini-outreach sessions, inviting qualified DBEs to present their services to relevant MBCR departments (Engineering, Mechanical, Legal, etc.)	10A	Innovative Best Practice	Facilitate opportunities for DBEs to present services and credentials to purchasing decision-makers with knowledge of the services needed
Partnership with NICI, an established DBE firm, to provide networking assistance and guidance to help DBEs overcome limitations such as bonding, financing or technical assistance. This includes access to providers of insurance and accounting training.	10A	Innovative Best Practice	Ability to leverage capabilities of a well-regarded DBE firm providing access to bonding, financing and other assistance for DBEs that need support to compete for contracts

Summary

MBCR will pursue a broad spectrum of initiatives to ensure we continue to grow the percentage of goods and services purchased through DBE businesses. In addition to meeting the MBTA's requirement, MBCR is committed to creating opportunity for emerging firms to compete in a level playing field for contracts. Our General Manager will set expectations for all Department Managers to assist the Procurement Department in identifying opportunities to partner with DBEs. MBCR leadership will also support our sustained efforts to import DBE program best practices, including transparent monitoring and reporting, and to build awareness through internal and external outreach and networking. Continuing into the next contract term, we will extend meaningful support to DBE firms by (1) helping them obtain DBE certification and other technical and financial support; (2) structuring or breaking up contracts to give DBE firms an opportunity to participate; and (3) helping them refine and improve business practices. Our current fiscal year's DBE participation rate of 18.3% of expenditures on goods and services is a testament to the credibility and effectiveness of MBCR's DBE program and plan.

Section 10. B - DBE
Utilization Certificate

Section 10.B

DBE Utilization Certificate

MBCR

Section 10.C - DBE
Letters of Intent

Section 10.C

DBE Letters of Intent

MBCR

Section 10.D -
Certification Letters

Section 10.D

Certification Letters

MBCR

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

September 5, 2012

Ms. Christine Hennigan
1 Stop Design Shop, Inc.
25 Hart Place
Woburn, MA 01801

Dear Ms. Hennigan:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 541430 with the certified business description of ALL GRAPHIC DESIGN INCLUDING, PRINT AND WEB MEDIA, COLLATERAL, BROCHURES, MARKETING, LOGO DESIGNS, WEBSITES, WEB HOSTING AND PUBLICATION DESIGN AND PRODUCTION, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of September 8, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a signed copy of your complete tax return including the Schedule C, for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
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Deval L. Patrick
Governor

Timothy P. Murray
Lieutenant Governor

Glen Shor
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

April 9, 2013

Mr. Kenneth Isaacs
Altech Services, Inc.
1160 Parsippany Boulevard, Suite 202
Parsippany, NJ 07054

Dear Mr. Isaacs:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 561320, 238210 and 561330 with the certified business description of TEMPORARY PERSONNEL SERVICES FOR RAIL AND BUS INDUSTRIES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of April 19, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

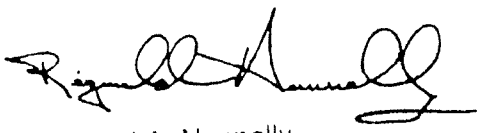
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OSD
OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

June 11, 2012

Mr. Ariel A. Peguero
American Green Building Services, Inc.
190 Milton Street
Dedham, MA 02026

Dear Mr. Peguero:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 561720, 561740, 238330, 237310, 561730, 238140, 424690, 541690, 561790, 238320 and 238160 with the certified business description of TOTAL FACILITY MAINTENANCE & JANITORIAL SERVICES: TO INCLUDE FLOOR CLEANING SUCH AS CARPET REPLACING, TILE REPLACING, WOOD FLOOR MAINTENANCE AND REFINISHING, MARBLE, GRANITE AND METAL MAINTENANCE; PROJECT MANAGEMENT & CONSTRUCTION SERVICES: SUCH AS REMODELING COMMERCIAL AND RESIDENTIAL AREAS, INTERIOR DEMOLITION, POST CONSTRUCTION CLEAN UP, TENANT IMPROVEMENTS, ROOFING AND REPAIRS, MASONRY SMALL REPAIRS, PAVEMENT MAINTENANCE REPAIR, PAINTING AND WALL COVERING (INTERIOR AND EXTERIOR), SNOW PLOWING, LANDSCAPING SERVICES, AND PROCUREMENT OF CLEANING PRODUCTS AND PAPER GOODS AND ENERGY GREEN CONSULTING SERVICES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of July 7, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

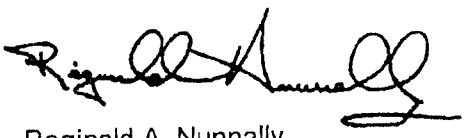
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
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One Ashburton Place, Suite 1017
Boston, MA 02108-1552

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Assistant Secretary for
Operational Services

November 27, 2012

Ms. Maria N. Borduz
AMRO Environmental Labs Corp.
111 Herrick Street
Merrimack, NH 03054

Dear Ms. Borduz:

Congratulations! The Supplier Diversity Office (SDO),on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you that your company has been certified as a disadvantaged business enterprise (DBE). We will list your firm in Massachusetts Central Register and our DBE Directory as certified in the following NAICS: 541380 with the certified business description ENVIRONMENTAL LABORATORY TESTING AND DATA VALIDATION. We commend you on your new certification and wish you success over the coming year.

Your firm's designation as a DBE will appear in the Massachusetts Central Register and the DBE Certified Business Listing of eligible firms for federal-aid transportation projects.

As a DBE, you must inform SDO in writing of changes affecting your size, disadvantaged status, ownership, control requirements or in any of the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within thirty (30) days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

You must update your firm's DBE certification, if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of November 22, 2013, each year. To do so, you will need to submit:

(1) No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns, for the year(s) indicated

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OSD
OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

COPY

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One Ashburton Place, Suite 1017
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Glen Shor
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

February 27, 2013

Ms. Cindy Beals
Beals & Sons, Inc.
P.O. Box 1039
Northborough, MA 01532

Dear Ms. Beals:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 238910 with the certified business description of ENVIRONMENTAL SUPPORT SERVICES SPECIALIZING IN SITE EXCAVATION AND RESTORATION; PIPING AND TRENCHING, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of March 9, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

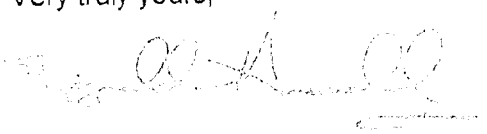
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

6/13/13

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

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Timothy P. Murray
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Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

May 1, 2013

Mr. Thomas Blount
Blount Group, The
P O Box 3194
Brockton, MA 02304

Dear Mr. Blount:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 541860 with the certified business description of ADVERTISING SPECIALTIES, PRINTING, MAILING AND FULFILLMENT, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of April 6, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

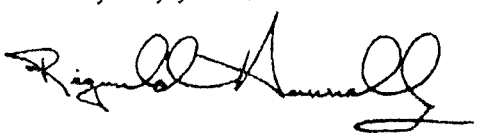
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OSD

OPERATIONAL SERVICES DIVISION

SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
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OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor

Glen Shor
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

January 23, 2013

Ms. Kristin Stadelmann
Central Electrical Specialty, Corp.
P O Box 7040
Brockton, MA 02303

Dear Ms. Stadelmann:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 423610 with the certified business description of COMMERCIAL AND INDUSTRIAL ELECTRICAL SUPPLIES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of February 10, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

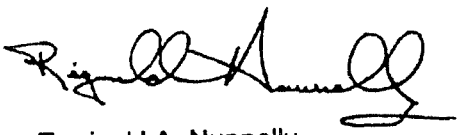
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

July 11, 2013

Ms. Patricia A. DeRosa
Patricia A Derosa d/b/a: Changeworks Consulting
P.O. Box 156
Roslindale, MA 02131

Dear Ms. Patricia A. DeRosa:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 611430 and 611710 with the certified business description of EDUCATION, TRAINING, ORGANIZATIONAL DEVELOPMENT, STRATEGIC PLANNING, NEEDS ASSESSMENT AND AUDITS REGARDING WORKPLACE AND COMMUNITY DIVERSITY, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of July 22, 2014
, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return Including the Schedule C, for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

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One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Glen Shor
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

May 20, 2013

Ms. Mary Cleary
Cleary Consultants, Inc.
21 Merchants Row, Faneuil Hall
Boston, MA 02109

Dear Ms. Cleary:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 561311, 561312 and 561320 with the certified business description of PROFESSIONAL EXECUTIVE SEARCH, PLACEMENT AND TEMPORARY STAFFING FIRM SPECIALIZING IN THE FIELDS OF ADMINISTRATION, SALES, MARKETING, FINANCE, BIO-TECH ENGINEERING AND INFORMATIONAL TECHNOLOGY, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of May 15, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OSD
OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

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OPERATIONAL SERVICES DIVISION
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Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

June 26, 2012

Ms. Kathleen Ferguson
Controlled Systems HVAC, Inc.
50A Northwestern Drive, #1
Salem, NH 03079

Dear Ms. Ferguson:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 238220 with the certified business description of HVAC SALES, SERVICE, INSTALLATION AND DESIGN, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of July 18, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

AUG-09-2012 12:16

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C, for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor

Timothy P. Murray
Lieutenant Governor

Glen Shor
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

April 9, 2013

Mr. Peter Costa
Costa's Trucking, Inc.
111 Gammons Road
Acushnet, MA 02743

Dear Mr. Costa:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 484220 with the certified business description of TRUCKING; HAULING OF GRAVEL, ASPHALT, TOP SOIL AND STONE, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of April 16, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

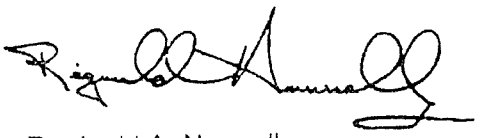
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

May 31, 2013

Mr. Russell Cress
Russell Cress Co., Inc.
P O Box 132
Monroe, NY 10949

Dear Mr. Cress:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 339950 with the certified business description of MAKES SIGNS AND FRAMES FOR COMMERCIAL ADVERTISEMENT AND MASS TRANSIT, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of May 29, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

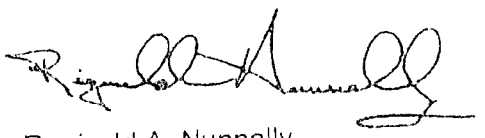
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor

Timothy P. Murray
Lieutenant Governor

Jay Gonzalez
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

August 21, 2012

Ms. Ruth Brown
Daven Corp.
300 Oak Street, #730
Pembroke, MA 02359

Dear Ms. Brown:

Congratulations! The Supplier Diversity Office (SDO),on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you that your company has been certified as a disadvantaged business enterprise (DBE). We will list your firm in Massachusetts Central Register and our DBE Directory as certified in the following NAICS: 423840 with the certified business description WELDING AND INDUSTRIAL SUPPLIES, TECHNICAL SERVICE. We commend you on your new certification and wish you success over the coming year.

Your firm's designation as a DBE will appear in the Massachusetts Central Register and the DBE Certified Business Listing of eligible firms for federal-aid transportation projects.

As a DBE, you must inform SDO in writing of changes affecting your size, disadvantaged status, ownership, control requirements or in any of the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within thirty (30) days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

You must update your firm's DBE certification, if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of August 24, 2013, each year. To do so, you will need to submit:

(1) No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

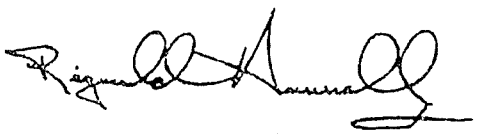
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

September 5, 2012

Ms. Wendy Davis-Schlabach
Davis Freight Management, Inc.
13238 Broadway Street
Alden, NY 14004

Dear Ms. Davis-Schlabach:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 488510 with the certified business description of DOMESTIC AND INTERNATIONAL FREIGHT FORWARDING AND WAREHOUSING, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of October 17, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

June 4, 2013

Mr. Rodney Dewey
Dewey Service Corp.
1D Condon Way
Hopedale, MA 01747

Dear Mr. Dewey:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 561710 with the certified business description of PEST CONTROL INCLUDING BUT NOT LIMITED TO GENERAL PEST CONTROL, TERMITES, PROBLEM ANIMAL CONTROL, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of June 27, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

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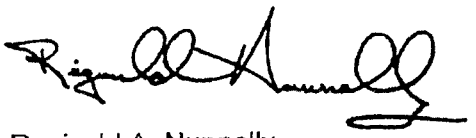
During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor

Timothy P. Murray
Lieutenant Governor

Glen Shor
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

May 8, 2013

Ms. Susan Pappas
Diesel Electrical Equipment, Inc.
139 North Griffith Boulevard
Griffith, IN 46319

Dear Ms. Pappas:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 336510, 423610 and 423860 with the certified business description of SERVICING OF LOCOMOTIVE EQUIPMENT; SPECIALIZING IN ELECTRO-MECHANICAL COMPONENT REPAIR AND REMANUFACTURING; SUPPLIER OF ELECTRICAL APPARATUS AND EQUIPMENT; TRANSPORTATION AND EQUIPMENT SUPPLIES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of May 1, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

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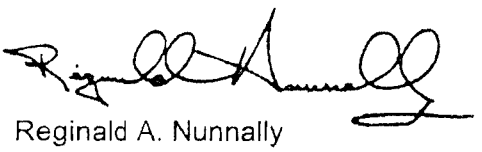
During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
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THE COMMONWEALTH OF MASSACHUSETTS
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One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

October 11, 2012

Ms. Diane H. Giblin
Draper Metal Fabrication, Inc.
260 Centre Street, Unit A
Holbrook, MA 02343

Dear Ms. Giblin:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 332322 and 333921 with the certified business description of SHEET METAL FABRICATION JOB SHOP, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of October 21, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

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(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

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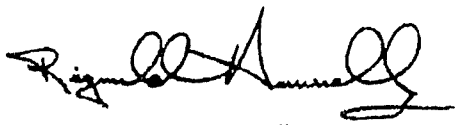
During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

March 20, 2013

Ms. Loretta DeGrazia
East Coast Petroleum Corp. d/b/a: American Energy, East Line, Inc. and East Line Lubricants
1185 Turnpike Street
Stoughton, MA 02072

Dear Ms. DeGrazia:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 424720 and 238220 with the certified business description of SALES AND DISTRIBUTION OF PETROLEUM PRODUCTS INCLUDING #2 HEATING OIL, ULTRA LOW SULFUR DIESEL FUEL (CLEAR & RED DYED) FOR FLEET, BOAT, TRAIN AND CONSTRUCTION VEHICLE REFUELING AS WELL AS FOR GENERATOR AND ON-SITE TANK REFILLING; SALES, REPAIR ,MAINTENANCE AND INSTALLATION AND REMOVAL OF HVAC SYSTEMS INCLUDING BOILERS, FURNACES, CONDENSERS, HEAT PUMPS AND CENTRAL AND SPLIT DUCTLESS AIR CONDITIONING SYSTEMS (MR. SLIM / MITSUBISHI ELECTRIC); INSTALLATION AND REMOVAL OF BOTH COMMERCIAL AND RESIDENTIAL OIL TANKS INCLUDING TRADITIONAL STEEL AND DOUBLE-WALLED ROTH TANKS OFFERING THE HIGHEST LEVEL OF ENVIRONMENTAL PROTECTION, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of April 1, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

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During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

August 21, 2012

Ms. Lynne R. Cover
Elite Service, Inc.
905 Stone Hill Road
Denver, PA 17517

Dear Ms. Cover:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 484121, 484110 and 484122 with the certified business description of FLATBED, STEP DECK, AND DOUBLE DROP TRANSPORTATION SERVICES; TRUCKING LOCAL AND LONG DISTANCE, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of September 19, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

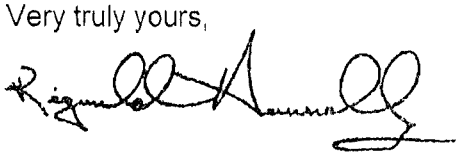
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
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Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

January 4, 2013

Ms. Winford Charlene Taylor
Expedited Transportation Services, Inc.
505 Plantation Park Drive, Suite B
Loganville, GA 30052

Dear Ms. Taylor:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 484121 with the certified business description of GENERAL FREIGHT TRUCKING, LONG DISTANCE, TRUCKLOAD BROKER, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of December 14, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OSD
OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
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One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

April 9, 2013

Dr. Faroog Siddique
FS Engineers, Inc.
2 Clock Tower Place, Suite 630
Maynard, MA 01754

Dear Dr. Siddique:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 541330, 541620 and 562910 with the certified business description of ENVIRONMENTAL AND CIVIL ENGINEERING, HAZARDOUS MATERIAL SITE INVESTIGATION AND REMEDIATION, CIVIL SITE DESIGN, PERMITTING, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of March 7, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

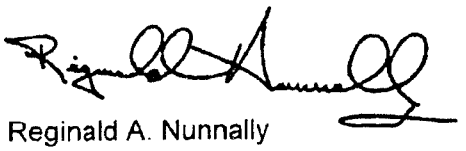
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
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THE COMMONWEALTH OF MASSACHUSETTS
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OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

January 28, 2013

Ms. Mary-Jo Glynn
Ferreira Towing, Inc.
293 Littleton Road, Route 110
Chelmsford, MA 01824

Dear Ms. Glynn:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 488410, 561990, 811111, 484121, 488490 and 484220 with the certified business description of TOWING; SPECIALIZED TRANSPORT OF CONSTRUCTION AND HEAVY EQUIPMENT UTILIZING LOWBED; LANDOLL, AND DUMP TRAILER SERVICES; RECOVERY AND REPAIR OF AUTOMOBILES AND LIGHT- MEDIUM- HEAVY-DUTY TRUCKS; FLEET MAINTENANCE; RELATED TRAFFIC CONTROL, TRUCKING; AND MASSACHUSETTS AUTHORIZED INSPECTION STATION FOR PASSENGER AND COMMERCIAL VEHICLES AND TRAILERS, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of May 16, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

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One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

May 31, 2013

Ms. Debra Heims
H&S Environmental, Inc.
160 East Main Street, Suite 2F
Westborough, MA 01581

Dear Ms. Heims:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 562910 with the certified business description of REMEDIATION SERVICES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of June 16, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

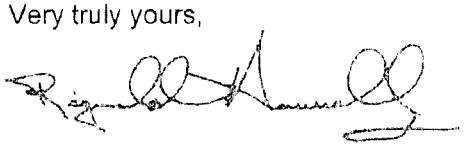
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
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THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

September 5, 2012

Ms. Emily B. Holmberg
Holmberg & Howe, Inc.
P O Box 945
Easthampton, MA 01027

Dear Ms. Holmberg:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 541370 with the certified business description of LAND SURVEYOR AND ENGINEERING SUPPORT SERVICES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of August 4, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

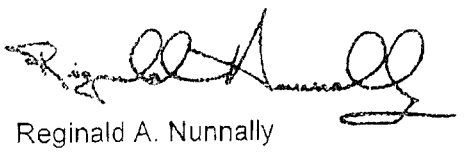
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OSD

OPERATIONAL SERVICES DIVISION

SUPPLIER DIVERSITY OFFICE

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One Ashburton Place, Suite 1017
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Deval L. Patrick
Governor

Timothy P. Murray
Lieutenant Governor

Glen Shor
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

March 1, 2013

Ms. Ruth Callahan
Integrated Wildlife Control
P O Box 60169
Florence, MA 01062

Dear Ms. Callahan:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 114210 with the certified business description of WILDLIFE CONTROL: SPECIALIZING IN MITIGATION OF DAMAGE FROM BEAVER-RELATED FLOODING, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of March 3, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OSD
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SUPPLIER DIVERSITY OFFICE
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Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

October 3, 2012

Ms. JoAnn Mikulsky
J Mikulsky Railway Supply Co., Inc.
295 West 49th Street
Reading, PA 19606

Dear Ms. Mikulsky:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 488210 with the certified business description of PROCUREMENT OF RAILROAD INDUSTRY PARTS INCLUDING BUT NOT LIMITED TO LOCOMOTIVE REPLACEMENT PARTS, RAILROAD SIGNAL AND TRACK EQUIPMENT, BATTERY RECYCLING SERVICE AND HI-RAIL GEAR, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of October 26, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

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Deval L. Patrick
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Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

May 20, 2013

Mr. Vincent Williams
Jazzy Sportswear Promotional Co.
P O Box 349
Lynn, MA 01903

Dear Mr. Williams:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Codes 541890 with the certified business description of PROMOTIONAL ITEMS AND ACCESSORIES/AWARDS AND BANNERS, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria on or before your firm's certification anniversary date of June 19, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

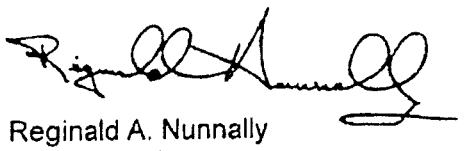
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

August 21, 2012

Ms. Marsha Harris
JM Environmental Corp., Inc.
1280 Grafton Street
Worcester, MA 01604

Dear Ms. Harris:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 541620 and 562910 with the certified business description of ENVIRONMENTAL CONSULTANT PROVIDING SERVICES FOR THE REMOVAL AND DISPOSAL OF HAZARDOUS, NON-HAZARDOUS, AND INDUSTRIAL WASTE MATERIALS, INCLUDING TRANSPORTATION; ASBESTOS REMOVAL AND DISPOSAL; PROJECT MANAGEMENT ON SITE FIELD SERVICES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of September 6, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

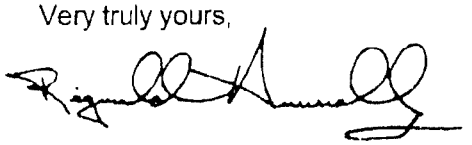
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OSD
OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

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Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

January 17, 2013

Ms. Christine Keville
Keville Enterprises, Inc.
475 School Street, Suite 11
Marshfield, MA 02050

Dear Ms. Keville:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 236220, 541512, 237310, 237990, 237130 and 237110 with the certified business description of CONSTRUCTION MANAGEMENT AND INSPECTION AND CAD, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of February 15, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

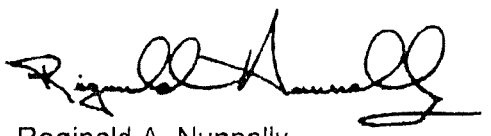
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

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Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

August 14, 2012

Ms. Uttara Hanumanthu Prasad
Lin Industries, Inc.
6314 Ice House Road
Hornell, NY 14843

Dear Ms. Prasad:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 423860 and 336510 with the certified business description of REGULAR DEALER OF BUILD-TO-PRINT SUB-ASSEMBLIES AND COMPONENTS TO RAIL INDUSTRIES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this **requirement**. You must attach supporting **documentation** describing in detail the nature of such changes. **The** notice must take the form of **an affidavit sworn** to by the owners of the firm before a person who is authorized by state law to administer **oaths or of** an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of August 25, 2013, and each year thereafter, please send SDO the following documents:

(1) No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

May 20, 2013

Mr. Gerald Moreno
Jaymor Enterprises, Inc. d/b/a: Manufacturer's Warehouse
P O Box 28025
Fresno, CA 93729

Dear Mr. Moreno:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 424720 with the certified business description of DISTRIBUTOR OF ENVIRONMENTAL LUBRICANTS, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of May 10, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OSD
OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
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Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
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Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

April 25, 2013

Ms. Tanya Bustos
Mass Janitorial Supplies
46 Saybrook Street
Brighton, MA 02135

Dear Ms. Bustos:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 424130 and 424690 with the certified business description of PROCUREMENT OF PAPER GOODS SUCH AS PAPER TOWELS, PAPER TOILET, FACIAL PAPER AND GLOVES AND CLEANING PRODUCTS, and will remain listed in our certified business directory. **This letter serves as sole and xclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of May 24, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

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If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

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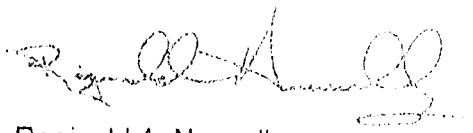
During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

'ery truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

October 3, 2012

Mr. Nelson Rivas
Matrix Railway Corporation
69 Nancy Street
West Babylon, NY 11704

Dear Mr. Rivas:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 336510, 334417, 541330, 335929, 423690 and 423860 with the certified business description of MANUFACTURER/WHOLESALER OF SUB-SYSTEMS AND SPARE PARTS FOR LOCOMOTIVE AND COMMUTER RAIL CAR INDUSTRY SERVICES; ELECTRICAL AND MECHANICAL ENGINEERING, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of October 24, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

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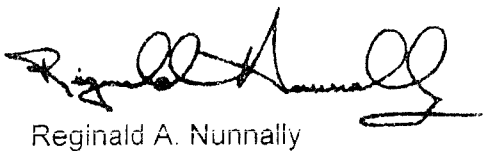
If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OSD
OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
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THE COMMONWEALTH OF MASSACHUSETTS
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One Ashburton Place, Suite 1017
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Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

February 20, 2013

Ms. Marlene J. Metrick
Metrick Manufacturing Company, Incorporated
142 Bedford Road
Woburn, MA 01801

Dear Ms. Metrick:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 336510 with the certified business description of ENGINEERING, DESIGNING AND FABRICATING OF CUSTOM PARTS, WORKING WITH ALL METALS, WOOD AND PLASTICS, SERVING ALL INDUSTRIES AND SPECIALIZING IN COMMUTER RAILROAD OPERATIONS, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of February 8, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

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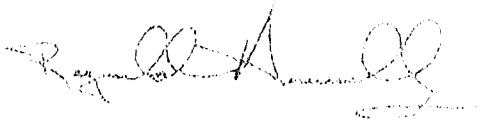
If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION

SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor

Timothy P. Murray
Lieutenant Governor

Jay Gonzalez
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

RECEIVED DEC 26 2012

December 19, 2012

Ms. Audrey Troise
William G Moore & Son, Inc. of Delaware
218 Schanck Road, Suite #2, P.O. Box 6309
Freehold, NJ 07728

Dear Ms. Troise:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 423310, 321912, 423990, 321113 and 423860 with the certified business description of LUMBER, TIMBER, PILING, DOMESTIC HARDWOOD, SOFTWOOD, IMPORTED TROPICAL HARDWOODS, RAILROAD TIES AND PRE-PLATED RAILROAD TIES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of December 1, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

May 8, 2013

Ms. Jodi Hemmer-Siegal
Nobscot Supply Company
PO Box 3270
Framingham, MA 01705

Dear Ms. Hemmer-Siegal:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 423850 with the certified business description of PROCUREMENT OF JANITORIAL, SAFETY AND INDUSTRIAL SUPPLIES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of May 21, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

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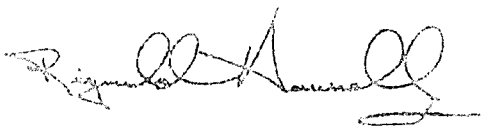
During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

March 25, 2013

Ms. Tracy A. Peter
Peter Environmental Consulting, LLC
P O Box 1336
Newburyport, MA 01950

Dear Ms. Peter:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 541690, 541620 and 561730 with the certified business description of ENVIRONMENTAL CONSULTING SERVICES, WETLAND PERMITTING, WETLAND DELINEATION (INLAND AND COASTAL), INCLUDING CONSTRUCTION PHASE SERVICES AND NATURAL LANDSCAPE DESIGN, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of April 15, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

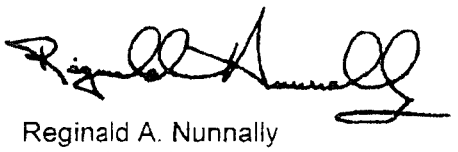
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION

SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite [illegible]
Boston, MA 02108-[illegible]

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

September 24, 2012

Ms. Lena Walsh
RL Controls, LLC
10-V Gill Street
Woburn, MA 01801

Dear Ms. Walsh:

The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you that your company was reviewed for clarification of your business description. Your company's primary economic activity as a disadvantaged business enterprise (DBE) is identified as NAICS Code(s) 541380, 811213, 238210, 541614, 488210 and 425120. For clarification, your business description now reads, SUPPORT THE MOST RECENT TO THE MOST ANTIQUATED IN ELECTRONIC TECHNOLOGIES; REVERSE ENGINEER PROPRIETARY OR OBSOLETE SYSTEMS AND DESIGN FUNCTIONAL TEST SYSTEMS; DEVELOP QUALITY ASSURANCE PROCEDURES THAT SUPPORT VARIOUS REPAIR METHODOLOGIES SUPPORTING ALL TECHNOLOGY-BASED SYSTEMS; SPECIALIZE IN COMPONENT-LEVEL ELECTRONIC REPAIRS TO "THRU-HOLE" AND SURFACE MOUNT TECHNOLOGY (SMT) BOARDS; BROKERS OF ELECTROMECHANICAL PARTS.

Your firm's designation as a DBE will appear in the Massachusetts Central Register and the DBE Certified Business Listing of eligible firms for federal-aid transportation projects.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within thirty (30) days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of August 24, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit.

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns.

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, SDO/DBE Renewal Specialist, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

January 23, 2013

Ms. Laura Mullin
L J Rogers, Inc.
P O Box 511 - 170 Cherry & Webb Lane
Westport Point, MA 02791

Dear Ms. Mullin:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 488510 with the certified business description of CUSTOM BROKERAGE, FREIGHT FORWARDING, OMESTIC AND INTERNATIONAL TRANSPORTATION SERVICES, and will remain listed in our ertified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of January 11, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

January 17, 2013

Ms. Patricia A. Tierney
Roxbury Electric Cable and Conduit Company, Inc.
P O Box 136
Readville, MA 02137

Dear Ms. Tierney:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 425120 with the certified business description of BROKER/DISTRIBUTOR OF ELECTRICAL WIRE, CABLE, CONDUIT AND OTHER ASSOCIATED ELECTRICAL ACCESSORIES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of January 25, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

June 26, 2012

Ms. Rosalie Berger
RTR Technologies, Inc.
48 Main Street
Stockbridge, MA 01262

Dear Ms. Berger:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 336510 with the certified business description of ELECTRICAL AND ELECTRONIC HEATING SYSTEMS TO THE RAIL AND MASS TRANSIT INDUSTRIES WORLDWIDE, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of July 13, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

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(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

May 20, 2013

Mr. Luis A. Seoane
Seoane Landscape Design, Inc.
551 Bedford Street
North Abington, MA 02351

Dear Mr. Seoane:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 561730, 238990 and 423320 with the certified business description of LANDSCAPE CONTRACTORS, CONSTRUCTION AND MAINTENANCE SPECIALIZING IN: 8ACRE WHOLESALE NURSERY, SUPPLYING OF TREES, SHRUBS, FLOWERS, WETLAND PLANTS, LOAM, MULCH, GRAVEL, SAND, MASONRY PRODUCTS, BRICK AND CONCRETE PAVERS INCLUDING: HYDROSEEDING, EXCAVATION, TRUCKING AND SNOW PLOWING, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of April 1, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

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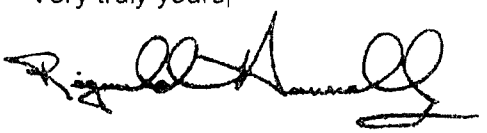
During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

October 3, 2012

Ms. Robin C. Smith
Smith Marine, Inc.
P O Box 381
Marblehead, MA 01945

Dear Ms. Smith:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 483211, 561990, 483113, 237310, 488320, 488330 and 237990 with the certified business description of CRANE BARGES; TOWING SERVICES; CRANE SERVICES FOR BRIDGE INSPECTION AND REPAIR; CORE SAMPLE; TEST BORING; DEMOLITION; PILE DRIVING; MOORING; DREDGING; MARINA; DOCK AND SHORELINE CONSTRUCTION, REPAIR AND MAINTENANCE; SUPPLY SHUTTLING AND LOGISTICAL SUPPORT; DIVING AND SALVAGE SERVICES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of October 21, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

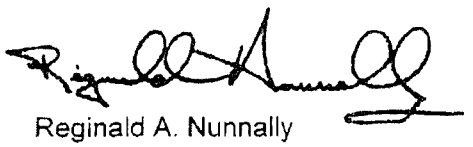
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OSD
OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

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Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

May 8, 2013

Ms. Linda Smith
Standard Modern Company, Inc.
47 Pleasant Street
Brockton, MA 02301

Dear Ms. Smith:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 323119, 511199 and 541430 with the certified business description of PROVIDES PRINTING, GRAPHIC DESIGN, FULFILLMENT AND MAILING PREMIUMS SERVICES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of April 19, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

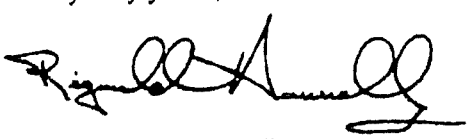
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

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Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

COPY

August 21, 2012

Ms. Catherine Schoenenberger
Stay Safe Traffic Products, Inc.
38 Lowell Road
Westford, MA 01886

Dear Ms. Schoenenberger:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 423990 with the certified business description of SAFETY EQUIPMENT AND WORK WEAR FOR ROAD CREWS; TRAFFIC AND STREET SIGNS, POSTS, HARDWARE, PAVEMENT MARKINGS AND MATERIALS FOR PRODUCING SIGNS (ALUMINUM BLANKS, SHEETING MATERIAL, LETTERING, ETC.), and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of September 22, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

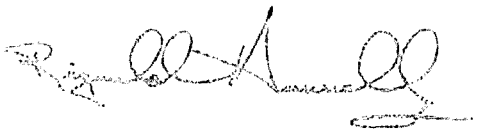
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE

Reginald Nunnally
Executive Director

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One Ashburton Place, Suite 1017
Boston, MA 02108-1552

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Jay Gonzalez
Secretary

Gary J. Lambert
Assistant Secretary for
Operational Services

October 3, 2012

Mr. Harold Rogers
Supplies Exchange Systems
204 Washington Street
Dorchester, MA 02121

Dear Mr. Rogers:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 444190 with the certified business description of SUPPLIER OF CONSTRUCTION MATERIALS, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of August 11, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

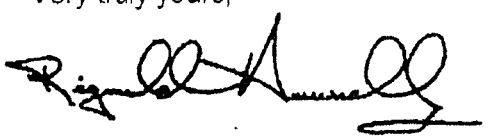
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

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Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

April 9, 2013

Ms. Kerry Ann Pires
Tools Unlimited, Inc.
P O Box 362
Stoughton, MA 02072

Dear Ms. Pires:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 423710 with the certified business description of SUPPLIER OF TOOLS AND INDUSTRIAL PRODUCTS, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of April 5, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,

Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
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Jay Gonzalez
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

October 24, 2012

Mr. Dhruv Sharma
TRANSITAIR, INC.
27 Bank Street
Hornell, NY 14843

Dear Mr. Sharma:

~~Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified~~ Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 333415, 335999, 335311 and 336510 with the certified business description of ASSEMBLY AND MANUFACTURE: RAILROAD EQUIPMENT, VENTILATING AND AIR CONDITIONING, SUPPLY OF CURRENT CARRYING DEVICES, AND ELECTRONIC CONTROL EQUIPMENT; AND SHEET METAL FABRICATION, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of October 27, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

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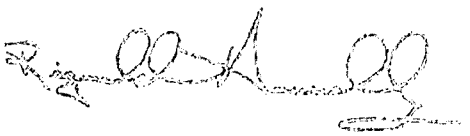
During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OSD
OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
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One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Gary J. Lambert
Assistant Secretary for
Operational Services

June 28, 2013

Ms. Corinne Schultz
Unity Environmental Technologies, LLC
23 Wagon Wheel Road
Taunton, MA 02780

Dear Ms. Schultz:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 541620, 561990, 541690 and 562910 with the certified business description of ENVIRONMENTAL SERVICES; SALES AND MARKETING SERVICES; TECHNOLOGY COMMERCIALIZATION; REMEDIATION (SOIL SAMPLING AND MONITORING); ENVIRONMENTAL PRODUCTS; SAFETY TRAINING AND CONSULTATION; BROKERAGE OF WASTE DISPOSAL SERVICES, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of March 16, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

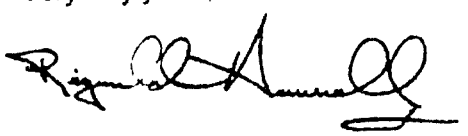
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
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THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

May 20, 2013

Ms. Betty Scott
UTCRAS, Inc. fka: UTC/Rail & Airsources, Inc.
17 Country Lane
Malvern, PA 19355

Dear Ms. Scott:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 336510, 332312, 332710, 424950 and 332322 with the certified business description of PRECISION MACHINE AND SHEET METAL FABRICATORS: SPECIALIZING IN RAILROAD WHEELS AND AXLE SETS, TRUCK ASSEMBLY, REMANUFACTURE ROLLER BEARINGS, TRAINLINE JUMPERS AND OTHER METAL COMPONENT RAILROAD TRAIN CAR ASSEMBLIES, BUILT TO PRINT, ALSO HEAVY STRUCTURAL STEEL INFRASTRUCTURE FABRICATORS FOR BRIDGE WORK, DISTRIBUTORS OF ALP DISC BRAKE AND COPON HIGH PERFORMANCE COATINGS, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification**.

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of June 28, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

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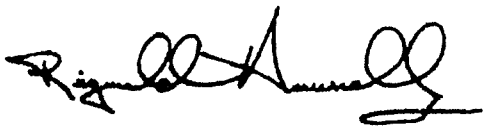
During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
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THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
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One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
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Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

February 19, 2013

Mr. Joseph Martins
Wood & Wire Fence Co., Inc.
125 Higginson Avenue
Lincoln, RI 02865

Dear Mr. Martins:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 238990 and 423930 with the certified business description of FENCING (MATERIAL ONLY AND/OR INSTALLATION), and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of February 1, 2014, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C, for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

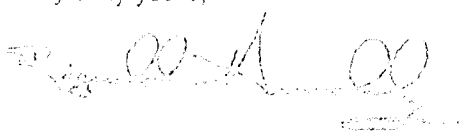
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

OPERATIONAL SERVICES DIVISION
SUPPLIER DIVERSITY OFFICE
Reginald Nunnally
Executive Director

THE COMMONWEALTH OF MASSACHUSETTS
Executive Office for Administration and Finance
OPERATIONAL SERVICES DIVISION
One Ashburton Place, Suite 1017
Boston, MA 02108-1552

Deval L. Patrick
Governor
Timothy P. Murray
Lieutenant Governor
Glen Shor
Secretary
Gary J. Lambert
Assistant Secretary for
Operational Services

February 12, 2013

Ms. Linda Pace
Workplace Essentials, Inc.
13 Linnell Circle
Billerica, MA 01821

Dear Ms. Pace:

Congratulations! The Supplier Diversity Office (SDO), on behalf of the Massachusetts Unified Certification Program (MassUCP), is pleased to notify you we have renewed your company as a disadvantaged business enterprise (DBE). Your company continues to be assigned NAICS Code(s) 562111, 424130, 561720, 532490 and 423850 with the certified business description of RESTROOM SERVICES: SANITARY DISPOSAL, SANITARY VENDING, AIR FRESH, URINAL AND TOILET SANITIZER; AUTO FLUSH; URINAL MAT; DIAPER DISPOSAL; BABY CHANGING TABLES; CHILD SAFETY SEATS; TOILET SEAT COVER DISPENSERS AND REFILLS; HAND DRYERS; PURE WATER SYSTEMS; INSTALL AND MAINTAIN ALL UNITS, and will remain listed in our certified business directory. **This letter serves as sole and exclusive proof of your firm's DBE certification.**

As a DBE, you must inform SDO in writing of any change in circumstances affecting your ability to meet size, disadvantaged status, ownership, control requirements or any material change in the information provided in your application form. Changes in management responsibility among members of a limited liability company are covered by this requirement. You must attach supporting documentation describing in detail the nature of such changes. The notice must take the form of an affidavit sworn to by the owners of the firm before a person who is authorized by state law to administer oaths or of an un-sworn declaration executed under penalty of perjury of the laws of the United States. You must provide the written notification within 30 days of the occurrence of the change. If you fail to make timely notification of such a change, you will be deemed to have failed to cooperate under 49 CFR 26.109(c).

To renew your firm's DBE certification and if it continues to meet the applicable criteria, on or before your firm's certification anniversary date of November 6, 2013, and each year thereafter, please send SDO the following documents:

(1) Notarized originals of No Change Affidavit

(2) A **signed** copy of your company's, and all of its affiliates', U.S. Tax Returns including all schedules and attachments for the year(s) indicated.

(3) A signed copy of your Personal Tax Returns

(4) If a sole proprietor, a **signed** copy of your complete tax return including the Schedule C. for year(s) indicated.

(5) All financial statements of your company for the year(s) indicated.

(6) A notarized statement of the number of full- and part-time employees (including owner) for each year indicated.

(7) Completed Personal Financial Statement and Statement of Disadvantage Forms. (see attached forms with instructions).

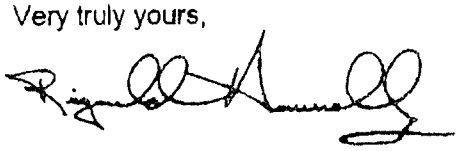
(8) For out of state companies, please provide a copy of your most recent certification letter from your home state.

If you have changed your company name or address, please notify Ms. Nedra D. White, in writing on the company's letterhead in order to update your state vendor file.

SDO reserves the right to monitor, perform random spot checks, re-evaluate the firm or revoke the firm's certification if it no longer meets the certification criteria.

During the period of your certification, if you have further questions regarding annual reviews, please contact Ms. Nedra D. White, Director of Certification, at (617) 502-8852.

Very truly yours,



Reginald A. Nunnally
Executive Director

Section 10.E -
DBE Affidavits

Section 10.E

DBE Affidavits

MBCR

EOD Rec' 7/5/13

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: 7/1/13

COUNTY OF Middlesex

The undersigned being duly sworn, deposes and says that he/she is the

Principal

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of 1-Stop Design Shop, Inc.
(Name of DBE)

32-0133447
(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

1-Stop Design Shop, Inc.
(Name of DBE)

Principal
(Signature and Title of Person Making Affidavit)

Sworn to before me this 1ST day of July, 2013.

Notary Public Sharyn Haggerty

My commission expires: Feb 16, 2018

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

SHARYN HAGGERTY
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
February 16, 2018

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF New Jersey Date: July 12, 2013

COUNTY OF Morris

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Altech Services, Inc.

(Name of DBE)

13-3565789

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

Altech Services, Inc.

(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this 16 day of July, 2013.

Notary Public Gail A Guetzow

GAIL A GUETZOW
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 11/26/2017

My commission expires: November 26, 2017

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: 7.17.13

COUNTY OF Suffolk

The undersigned being duly sworn, deposes and says that he/she is the

President
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of American Green Building Services, Inc.
(Name of DBE)

27-1939814
(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

American Green Building Services, Inc.
(Name of DBE)

President
(Signature and Title of Person Making Affidavit)

Sworn to before me this 17th day of July, 2013.

Notary Public

My commission expires: Sept 29, 2017

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

JUSTIN SANTOS
Notary Public
Massachusetts
Commission Expires Sep 29, 2017

DBE AFFIDAVIT

STATE OF New Hampshire Date: 6-3-2013

COUNTY OF Hillsborough

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of A-M-R-O Environmental Lab. Corp.

(Name of DBE)

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of AMRO Environmental Lab. Corp.

(Name of DBE)

Angie N. Boodie, President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 3rd day of June, 2013.

Notary Public NKDobek

My commission expires: NICOLE N. DOBEK Notary Public - New Hampshire Commission Expires August 24, 2016

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF Massachusetts Date: 6-6-13

COUNTY OF Worcester

The undersigned being duly sworn, deposes and says that he/she is the

President / Cassidy L. Beals
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Beals + Sons, Incorporated
(Name of DBE)

38-370 7727
(Federal ID number)

and certifies that since the date of its certification by

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Beals + Sons, Incorporated
(Name of DBE)

Cassidy L Beals
(Signature and Title of Person Making Affidavit)

Sworn to before me this 14th day of June, 2013.

Notary Public Deanna L Pryal

My commission expires:

DEANNA L. PRYAL
Notary Public
Commonwealth of Massachusetts
My Commission Expires January 18, 2019

NOTE: The Proposer must attach a DBE certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF Mass Date: 6/11/2013

COUNTY OF Plymouth

The undersigned being duly sworn, deposes and says that he/she is the

sole owner

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of The Blount Group

(Name of DBE)

076-56-6459

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of The Blount Group

(Name of DBE)

Owner

(Signature and Title of Person Making Affidavit)

Sworn to before me this 11th day of June 2013

Notary Public Amanda Foley

My commission expires: 8/6/15

AMANDA FOLEY
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
My Comm Expires Aug. 6, 2015

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF MA Date: 6/3/13

COUNTY OF Plymouth

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Central Electrical Specialty Corp

(Name of DBE)

04 301 8596

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of Central Electrical Specialty Corp

(Name of DBE)

M. A President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 3rd day of June, 2013.

Notary Public

My commission expires: March 17, 2015

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

CHRISTINA PARMA
Notary Public
Commonwealth of Massachusetts
My Commission Expires
2015

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF MA Date: 7-12-13

COUNTY OF Suffolk

The undersigned being duly sworn, deposes and says that he/she is the

President and sole owner
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Patricia A. DeRosa DBA ChangeWorks Consulting
(Name of DBE)

04-3459722
(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

(Patricia A. DeRosa DBA) ChangeWorks Consulting
(Name of DBE)

Patricia A DeRosa
(Signature and Title of Person Making Affidavit)

Sworn to before me this 12th day of July, 2013.

Notary Public Joseph M Donnelly

My commission expires: 2/25/2016

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

JOSEPH MARTIN DONNELLY
Notary Public
Commonwealth of Massachusetts
My Commission Expires
February 25, 2016

6/24/13

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: 6/21/2013

COUNTY OF Suffolk

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Cleary Consultants, Inc

(Name of DBE)

042-95-1367

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

Cleary Consultants, Inc

(Name of DBE)

[signature] - President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 21st day of June, 2013.

Notary Public [signature]

My commission expires:

SHAWN D. BARRY
Notary Public
Commonwealth of Massachusetts
My Commission Exp. Oct. 28, 2016

NOTE: The Operator must attach the DBE's most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF New Hampshire Date: 6/3/13

COUNTY OF Rockingham

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Controlled Systems HVAC, INC

(Name of DBE)

43-2112819

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Controlled Systems HVAC, INC

(Name of DBE)

Kathi Fee President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 3rd day of June, 2013.

Notary Public William J. Ferguson

WILLIAM J. FERGUSON, Notary Public
My Commission Expires March 7, 2017

My commission expires:

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

6/17/13

Massachusetts Bay Transportation Authority

DBE AFFIDAVIT

STATE OF Mass Date: 6/13/13

COUNTY OF Bristol

The undersigned being duly sworn, deposes and says that he/she is the

Peter Costa President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Costa's Trucking Inc

(Name of DBE)

260036584

(Federal ID number)

and certifies that since the date of its certification by

SOMWBA

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Costa's Trucking Inc

(Name of DBE)

[signature] President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 13 day of June, 2013.

Notary Public Maria H Camara

My commission expires: 12/8/2017

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF New York Date: 7-12-13

COUNTY OF Orange

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Russell Cress Co. Inc.

(Name of DBE)

11-3544779

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

Russell Cress Co. Inc.

(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this 17 day of JULY, 2013.

Notary Public

My commission expires: 04/14/14

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

EDGAR DUBON
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires April 14, 2014

DBE AFFIDAVIT

STATE OF Massachusetts Date: June 3, 2013

COUNTY OF Plymouth

The undersigned being duly sworn, deposes and says that he/she is the

RUTH G BROWN

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of DAVEN CORP

(Name of DBE)

042895362

(Federal ID number)

and certifies that since the date of its certification by

DBE+SOD (SOMWBA)

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

DAVEN CORP

(Name of DBE)

Ruth G. Brown Pres

(Signature and Title of Person Making Affidavit)

Sworn to before me this 3 day of June, 2013.

Notary Public Carol G Amaral

My commission expires: September 5 2014

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

CAROL G. AMARAL
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
September 5, 2014

6/29/13

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF New York Date: 06-19-13

COUNTY OF Erie

The undersigned being duly sworn, deposes and says that he/she is the

President
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Davis Freight Management, Inc.
(Name of DBE)

16-1275436
(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

Davis Freight Management, Inc.
(Name of DBE)

Wendy D Schlabach
(Signature and Title of Person Making Affidavit)

Sworn to before me this 19th day of June, 2013.

Notary Public Shawn Gillen

SHAWN GILLEN
Notary Public, State of New York
Qualified in Erie County
My Commission Expires 07/18/2015

My commission expires: 7/18/15

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF MASS Date: 6-27-13

COUNTY OF WORCESTER.

The undersigned being duly sworn, deposes and says that he/she is the

PRESIDENT

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of DEWEY PEST & WILDLIFE

(Name of DBE)

04-3128091

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

DEWEY PEST & WILDLIFE

(Name of DBE)

PRES.

(Signature and Title of Person Making Affidavit)

Sworn to before me this 27 day of JUNE, 2013.

Notary Public Margaret A Bonderenka

My commission expires: Mar. 7, 2014

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF Indiana Date: 6-14-13

COUNTY OF Lake

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Diesel Electrical Equipment, Inc.

(Name of DBE)

35-1684240

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of Diesel Electrical Equipment, Inc.

(Name of DBE)

Aristeidis Papas / President

(Signature and Title of Person Making Affidavit)

MARTHA A. SIMPSON NOTARY PUBLIC SEAL EXPIRES 05-20-2017 STATE OF INDIANA

Sworn to before me this 14th day of June, 2013.

Notary Public Martha A. Simpson

My commission expires: May 20, 2017

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF MA Date: June 5, 2013

COUNTY OF Bristol

The undersigned being duly sworn, deposes and says that he/she is the

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Draper Metal Fabrication, Inc.
(Name of DBE)

04-3474928
(Federal ID number)

and certifies that since the date of its certification by

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Draper Metal Fabrication, Inc
(Name of DBE)

Diane M. Yurlin – President
(Signature and Title of Person Making Affidavit)

Sworn to before me this 5th day of June, 2013.

Notary Public Sharon L Leone

SHARON L. LEONE
Notary Public
Commonwealth of Massachusetts
My Commission Expires
April 30, 2015

My commission expires: 4/30/15

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF MA Date: 6-17-13

COUNTY OF NORFOLK

The undersigned being duly sworn, deposes and says that he/she is the

PRESIDENT
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of East Coast Petroleum Corp
(Name of DBE)

04-2894329
(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

East Coast Petroleum Corp
(Name of DBE)

Rita V DeMarco Pres.
(Signature and Title of Person Making Affidavit)

Sworn to before me this 17 day of June, 2013.

Notary Public Thomas J. Recupero

My commission expires: May 24, 2015

NOTE: The Operator must attach the DBEs most recent certification letter or document[illegible] affidavit.

THOMAS J. RECUPERO NOTARY PUBLIC COMMONWEALTH OF MASSACHUSETTS MY COMMISSION EXPIRES 5-24-2015

Recd EOD 6/10/13

Massachusetts Bay Transportation Authority

DBE AFFIDAVIT

STATE OF Pennsylvania Date: 6-9-13

COUNTY OF Lancaster

The undersigned being duly sworn, deposes and says that he/she is the

sole owner

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Elite Service Inc

(Name of DBE)

23-248-3575

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Elite Service Inc

(Name of DBE)

[signature] Pres.

(Signature and Title of Person Making Affidavit)

Sworn to before me this 6th day of June, 2013.

Notary Public Rebecca L. Yoder

My commission expires: May 4th, 2015

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

NOTARIAL SEAL
REBECCA L YODER
Notary Public
EAST COCALICO TWP., LANCASTER CNTY
My Commission Expires May 4, 2015

6/24/13

Massachusetts Bay Transportation Authority

DBE AFFIDAVIT

STATE OF Georgia Date: 6-18-13

COUNTY OF Gwinnett

The undersigned being duly sworn, deposes and says that he/she is the

Secretary

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Expedited Transportation Services, Inc.

(Name of DBE)

58-1462604

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Expedited Transportation Services, Inc

(Name of DBE)

June Taylor Secretary

(Signature and Title of Person Making Affidavit)

Sworn to before me this 18th day of June, 2013.

Notary Public Samantha Lewis

My commission expires: Notary Public Gwinnett County, Georgia My Commission Expires October 10, 2014

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: June 24, 2013

COUNTY OF Middlesex

The undersigned being duly sworn, deposes and says that he/she is the

President
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of FS Engineers, Inc.
(Name of DBE)

04-3575841
(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

FS Engineers, Inc.
(Name of DBE)

F. Siddique, President
Farooq Siddique (Signature and Title of Person Making Affidavit)

Sworn to before me this 24th day of June, 2013.

Notary Public Linda L Cetrone

LINDA L. CETRONE
NOTARY PUBLIC
Commonwealth of Massachusetts
My Commission Expires Jan. 30, 2020

My commission expires:

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF MASS Date: 6/12/13

COUNTY OF Middlesex

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Ferreira Towing Inc.

(Name of DBE)

04-3503429

(Federal ID number)

and certifies that since the date of its certification by

5/16/2005

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Ferreira Towing Inc

(Name of DBE)

Mary J. Silva

(Signature and Title of Person Making Affidavit)

Sworn to before me this 12 day of June, 2013.

Notary Public Trudy A. Lindsay

My commission expires:

TRUDY A. LINDSAY
Notary Public
Commonwealth of Massachusetts
My Commission Expires
July 4, 2014

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

Rec'd COD 7/5/13

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: July 3, 2013

COUNTY OF Worcester

The undersigned being duly sworn, deposes and says that he/she is the

President
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of H & S Environmental, Inc.
(Name of DBE)

20-0103280
(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

H & S Environmental, Inc.
(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this 3rd day of July, 2013.

Notary Public Linda Perrotti

My commission expires: April 20, 2018

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

LINDA GRACE PERROTTI
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
April 20, 2018

DBE AFFIDAVIT

STATE OF MASSACHUSETTS Date: 06/27/2013

COUNTY OF HAMPSHIRE

The undersigned being duly sworn, deposes and says that he/she is the

PRESIDENT

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of HOLMBERG & HOWE, INC

(Name of DBE)

20-2925966

(Federal ID number)

and certifies that since the date of its certification by

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

HOLMBERG & HOWE, INC

(Name of DBE)

PRESIDENT

(Signature and Title of Person Making Affidavit)

Sworn to before me this 27TH day of June, 2013.

Notary Public Mary Ann Lizzi

My commission expires: 08/13/2015

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

6/12/13

Massachusetts Bay Transportation Authority

DBE AFFIDAVIT

STATE OF Massachusetts Date: 6/10/13

COUNTY OF Hampshire

The undersigned being duly sworn, deposes and says that he/she is the

Partner
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Integrated Wildlife Control
(Name of DBE)

22-3869393
(Federal ID number)

and certifies that since the date of its certification by

Supplier Diversity Office / Massachusetts Unified Certification Program
(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Integrated Wildlife Control
(Name of DBE)

Ruth A. Callahan, Partner
(Signature and Title of Person Making Affidavit)

Sworn to before me this 10 day of June, 2013.

Notary Public Elizabeth B. Pynchon

ELIZABETH B. PYNCHON
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
February 6, 2020

My commission expires:

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF PA Date: June 4, 2013

COUNTY OF Berks

The undersigned being duly sworn, deposes and says that he/she is the

President
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of J. Mikulsky Railway Supply Co., Inc.
(Name of DBE)

23-2552231
(Federal ID number)

and certifies that since the date of its certification by

9/28/07 - SOMWBA
(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

J. Mikulsky Railway Supply Co., Inc.
(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this 5 day of June, 2013.

Notary Public

My commission expires: 12/28/16

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Jennifer L. Lopez, Notary Public
Wyomissing Boro, Berks County
My Commission Expires Dec. 28, 2016

DBE AFFIDAVIT

STATE OF MA Date: 06/07/2013

COUNTY OF Essex

The undersigned being duly sworn, deposes and says that he/she is the

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Vincent M Williams DBA Saxy Sportswear Promotional Co
(Name of DBE)

04-3382166
(Federal ID number)

and certifies that since the date of its certification by

N/
(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of Saxy Sportswear Promotional Co
(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this 11th day of June, 2013.

Notary Public Janet L. Rowe

My commission expires: April 25, 2019

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

JANET L. ROWE
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
April 25, 2019

JANET L. ROWE NOTARY PUBLIC COMMONWEALTH OF MASSACHUSETTS MY COMM. EXPIRES APRIL 25, 2019

Rec'd 6/06/13

Massachusetts Bay Transportation Authority

DBE AFFIDAVIT

STATE OF Massachusetts Date: 6 3 13

COUNTY OF Worcester

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of JM Environmental Corp Inc

(Name of DBE)

04-3553212

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

JM Environmental Corp Inc

(Name of DBE)

President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 6th day of June, 2013.

Notary Public Elizabeth A Wilder

My commission expires: 12/19/2014

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ELIZABETH A. WILDER
Notary Public
Commonwealth of Massachusetts
My Commission Expires Dec. 19, 2014

DBE AFFIDAVIT

STATE OF MA Date: 6/05/13

COUNTY OF Plymouth

The undersigned being duly sworn, deposes and says that he/she is the

Sole owner, President & CEO
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Keville Enterprises, Inc.
(Name of DBE)

043-11-2591
(Federal ID number)

and certifies that since the date of its certification by

SDO
(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Keville Enterprises, Inc.
(Name of DBE)

Christa Keville, President & CEO
(Signature and Title of Person Making Affidavit)

Sworn to before me this 5 day of June, 2013.

Notary Public Jacqueline M. Madden

My commission expires: 10/17/14

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

JACQUELINE M. MADDEN
Notary Public
Commonwealth of Massachusetts
My Commission Expires October 17, 2014

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF New York Date: 7/19/2013

COUNTY OF Tompkins

The undersigned being duly sworn, deposes and says that he/she is the

PRESIDENT

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of LIN INDUSTRIES, INC.

(Name of DBE)

11-2729162

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

LIN INDUSTRIES, INC.

(Name of DBE)

Thomas H. [illegible]

(Signature and Title of Person Making Affidavit)

Sworn to before me this 19th day of July, 2013.

Notary Public [illegible]

My commission expires: 12-10-2016

SAMANTHA R WINDHAUSEN
NOTARY PUBLIC-STATE OF NEW YORK
No. 01WI6273529
Qualified In Tompkins County
My Commission Expires December 10, 2016

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF Massachusetts Date: 6/04/2013

COUNTY OF Suffolk

The undersigned being duly sworn, deposes and says that he/she is the

President
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Manufacturer's Warehouse / Jaymor Enterprises, Inc.
(Name of DBE)

77-0346523
(Federal ID number)

and certifies that since the date of its certification by

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Manufacturer's Warehouse /Jaymor Enterprises, Inc.
(Name of DBE)

President
(Signature and Title of Person Making Affidavit)

Sworn to before me this _____ day of _____, 20____.

Notary Public_____

My commission expires:_____

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ACKNOWLEDGMENT

State of California
County of Fresno)

On June 4, 2013 before me, Peter McMullen, Notary Public
(insert name and title of the officer)

personally appeared Gerald Moreno
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/~~her~~/their authorized capacity(~~ies~~), and that by his/her/their signature(s) on the instrument the person(~~s~~), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

PETER MCMULLEN
Commission # 1985045
Notary Public - California
Fresno County
My Comm. Expires Jul 14, 2016

Signature _____ **(Seal)**

DBE AFFIDAVIT

STATE OF MA Date: 6-3-13

COUNTY OF Worcester

The undersigned being duly sworn, deposes and says that he/(she) is the

Sole owner

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Mass Janitorial Supplies

(Name of DBE)

265-969188

(Federal ID number)

and certifies that since the date of its certification by

Supplier Diversity Office

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of Mass Janitorial Supplies

(Name of DBE)

Sole owner

(Signature and Title of Person Making Affidavit)

Sworn to before me this 3rd day of June, 2013.

Notary Public John F Mazzone

My commission expires: December 19, 2019

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

JOHN FRANCIS MAZZONE
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
December 19, 2019

DBE AFFIDAVIT

STATE OF New York Date: June 26, 2013

COUNTY OF Suffolk

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Matrix Railway Corp.

(Name of DBE)

11-3516063

(Federal ID number)

and certifies that since the date of its certification by

SOMWBA

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Matrix Railway Corp.

(Name of DBE)

President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 26th day of June, 2013.

Notary Public Michael Walsh

My commission expires: 6/22/2013

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

Michael Walsh
Notary Public
State of New York
County of Suffolk
03/22/2013

DBE AFFIDAVIT

STATE OF Massachusetts Date: 6/6/13

COUNTY OF Middlesex

The undersigned being duly sworn, deposes and says that he/she is the

President
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Metrick Manufacturing Company, Inc.
(Name of DBE)

042702473
(Federal ID number)

and certifies that since the date of its certification by

SDO, formally known as SOMWBA
(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Metrick Manufacturing Company, Inc.
(Name of DBE)

Marlene Metrick President
(Signature and Title of Person Making Affidavit)

Sworn to before me this 7 day of June, 2013.

Notary Public

My commission expires: 12-3-15

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ALLISON RYAN
NOTARY PUBLIC
Commonwealth of Massachusetts
My Commission Expires Dec. 3, 2015

DBE AFFIDAVIT

STATE OF NEW JERSEY Date: 6/10/13

COUNTY OF MONMOUTH

The undersigned being duly sworn, deposes and says that he/she is the

Ashley Tiorse, President
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of William G Moore & Son, INC. of Delaware
(Name of DBE)

13-1615758
(Federal ID number)

and certifies that since the date of its certification by

SDO
(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

William G Moore & Son INC of Delaware
(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this 10th day of June, 20 13.

Notary Public Quin A Morton

My commission expires: 4/11/2016

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

Rec'd EOD 6/10/13

Massachusetts Bay Transportation Authority

DBE AFFIDAVIT

STATE OF Massachusetts Date: June 3, 2013

COUNTY OF Middlesex County

The undersigned being duly sworn, deposes and says that he/she is the

Sole owner

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Nobscot Supply Company

(Name of DBE)

04-3331753

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of Nobscot Supply Company

(Name of DBE)

Julie Hannan - Sign

(Signature and Title of Person Making Affidavit)

Sworn to before me this 3rd day of June, 2013.

Notary Public J. A. Clifford

My commission expires: July 18, 2019

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

JULIE A. CLIFFORD
NOTARY PUBLIC
Commonwealth of Massachusetts
My Commission Expires July 18, 2019

DBE AFFIDAVIT

STATE OF Massachusetts Date: 6/7/13

COUNTY OF Essex

The undersigned being duly sworn, deposes and says that he/she is the

Sole Owner

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Peter Environmental Consulting, LLC

(Name of DBE)

26-0415126

(Federal ID number)

and certifies that since the date of its certification by

Reginald A. Nunnally, Executive Director

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Peter Environmental Consulting, LLC

(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this 7th day of June, 2013.

Notary Public

My commission expires: 10/12/2018

COURTNEY ERSKINE
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
MY COMMISSION EXPIRES 10/12/18

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: 7/3/13

COUNTY OF Middlesex

The undersigned being duly sworn, deposes and says that he/she is the

Principal/owner

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of RL Controls, LLC

(Name of DBE)

20-4589738

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

RL Controls, LLC

(Name of DBE)

Principal/owner

(Signature and Title of Person Making Affidavit)

Sworn to before me this 2nd day of July, 2013

Notary Public

My commission expires: 8/10/18

COLLEEN FONSECA
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
August 10, 2018

NOTE: The Operator must **attach** the DBEs most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF Massachusetts Date: 6-21-13

COUNTY OF Bristol

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of LJ Rogers, Inc

(Name of DBE)

04-3327649

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

LJ Rogers, Inc.

(Name of DBE)

Laura J. Mulk President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 26 day of June, 2013.

Notary Public Harvey Lemay

My commission expires: 10/4/2017

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF Massachusetts Date: June 12, 2013

COUNTY OF Suffolk

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Roxbury Electric Cable and Conduit Company, Inc

(Name of DBE)

04 3522184

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Roxbury Electric Cable and Conduit Company, Inc

(Name of DBE)

, President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 12th day of June , 20 13

Notary Public

My commission expires:

ELLEN GILLETTE
Notary Public
Commonwealth of Massachusetts
My Commission Expires
June 16, 2017

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: July 8, 2013

COUNTY OF Berkshire

The undersigned being duly sworn, deposes and says that he/she is the

President/Owner
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of RTR Technologies, Inc.
(Name of DBE)

13-3757171
(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

RTR Technologies, Inc.
(Name of DBE)

Rosalie B. Berger
(Signature and Title of Person Making Affidavit)

Sworn to before me this 8 day of July, 20 13.

Notary Public Deborah Hards

My commission expires: May 4, 2016

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF MA. Date: July 19, 2013

COUNTY OF PLYMOUTH

The undersigned being duly sworn, deposes and says that he/she is the

VICE PRESIDENT
(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of SEQUANE LANDSCAPE DESIGN INC.
(Name of DBE)

04-2751007
(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

SEQUANE LANDSCAPE DESIGN INC.
(Name of DBE)

(Signature and Title of Person Making Affidavit)

Sworn to before me this 19th day of July 2013.

Notary Public Euanna Kelly

My commission expires: 10-12-2018.

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

EUANNA M. KELLY
MY COMMISSION EXPIRES
OCTOBER 12, 2018
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS

6/26/13

Massachusetts Bay Transportation Authority

DBE AFFIDAVIT

STATE OF MA Date: 6/19/13

COUNTY OF Essex

The undersigned being duly sworn, deposes and says that he/she is the

CEO/owner

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Smith Marine, Inc.

(Name of DBE)

72-1544780

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Smith marine, Inc.

(Name of DBE)

CEO, owner

(Signature and Title of Person Making Affidavit)

Sworn to before me this 19th day of June, 2013

Notary Public

Matthew C. Martin
Notary Public
My Commission Expires August 6, 2015
Commonwealth of Massachusetts

My commission expires: 8/6/15

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: 7/8/13

COUNTY OF Plymouth

The undersigned being duly sworn, deposes and says that he/she is the

Linda Smith President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Standard Modern Co. Inc

(Name of DBE)

042547371

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

Linda Smith Standard Modern Co. Inc

(Name of DBE)

Linda Smith

(Signature and Title of Person Making Affidavit)

Sworn to before me this 9th day of July, 2013.

Notary Public

My commission expires: 1/30/2015

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

BARBARA E. OSSAI
Notary Public
Commonwealth of Massachusetts
My Commission Expires January 30, 2015

DBE AFFIDAVIT

STATE OF Massachusetts Date: June 7, 2013

COUNTY OF Middlesex

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Stay Safe Traffic Products, Inc

(Name of DBE)

20-2180448

(Federal ID number)

and certifies that since the date of its certification by

OSD, formally Known as SOMWBA

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Stay Safe Traffic Products Inc.

(Name of DBE)

Catherine A Ashcraft President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 7 day of June, 2013.

Notary Public Chris Johnson

My commission expires: 3/12/15

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: 7/19/13

COUNTY OF Suffolk

The undersigned being duly sworn, deposes and says that he/she is the

Sole Owner

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Supplies Exchange Systems

(Name of DBE)

09-2627204

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

Supplies Exchange Systems

(Name of DBE)

Harold Rogers Sr Owner

(Signature and Title of Person Making Affidavit)

Sworn to before me this 19th day of July, 2013.

Notary Public

DENISE CHRISTINE TAYLOR
Notary Public
Commonwealth of Massachusetts
My Commission Expires
November 30, 2018

My commission expires:

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

Rec'd EOD 6/4/13

Massachusetts Bay Transportation Authority

DBE AFFIDAVIT

STATE OF Massachusetts Date: June 3, 2013

COUNTY OF Norfolk

The undersigned being duly sworn, deposes and says that he/she is the

President

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Tools Unlimited Inc

(Name of DBE)

043195177

(Federal ID number)

and certifies that since the date of its certification by

SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Tools Unlimited Inc

(Name of DBE)

[signature] President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 3 day of June 2013.

Notary Public [signature]

TIMOTHY F. DUFFY
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
May 06, 2016

My commission expires:

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF NEW YORK Date: June 4, 2013

COUNTY OF STEUBEN

The undersigned being duly sworn, deposes and says that he/she is the

President & CEO

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Transitair, Inc.

(Name of DBE)

58-1949123

(Federal ID number)

and certifies that since the date of its certification by

The Commonwealth of Massachusetts, Operational Services Division, Supplier Diversity Office

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

Transitair, Inc.

(Name of DBE)

Dhruv Sharma, President & CEO

(Signature and Title of Person Making Affidavit)

Sworn to before me this 7th day of June, 20 13.

Notary Public Helen M. Shick

HELEN M. SHICK
Notary Public, State of New York
No. 01SH5010291
Qualified in Steuben County
Commission Expires March 29, 20 15

My commission expires: 3/29/15

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

ATTACHMENT "E"
DBE AFFIDAVIT

STATE OF Massachusetts Date: 7/23/13

COUNTY OF Bristol

The undersigned being duly sworn, deposes and says that he/she is the

President, Managing Member

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Unity Environmental Technologies LLC

(Name of DBE)

84-4680720

(Federal ID number)

and certifies that since the date of its certification by the Massachusetts Supplier Diversity Office (SDO, formerly known as SOMWBA), the certification has not been revoked nor has it expired nor has there been any change in the socially or economically disadvantaged owner's status or the minority status of

Unity Environmental Technologies LLC

(Name of DBE)

President, MgMg

(Signature and Title of Person Making Affidavit)

Sworn to before me this 23 day of July, 2013

Notary Public Debra L Bevilacqua

My commission expires: Aug 10, 2018

NOTE: The Operator must attach the DBEs most recent certification letter or document to this affidavit.

Debra L. Bevilacqua
NOTARY PUBLIC
Commonwealth of Massachusetts
My Commission Expires Aug. 10, 2018

DBE AFFIDAVIT

STATE OF PA Date: JUNE 5, 2013

COUNTY OF DELAWARE

The undersigned being duly sworn, deposes and says that he/she is the

BETTY A. SCOTT

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of (FORMERLY) UTC/RAIL & AIRSOURCES NOW UTCRAS INC.

(Name of DBE)

23 308 0861

(Federal ID number)

and certifies that since the date of its certification by REGINALD A. NUNNALLY FOR SUPPLIER DIVERSITY OFFICE MASS UCP

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

UTC/RAIL & AIRSOURCES NOW UTCRAS INC

(Name of DBE)

Betty A Scott CEO

(Signature and Title of Person Making Affidavit)

Sworn to before me this 5 day of JUNE, 2013.

Notary Public JOSEPH F. SANTELLA

My commission expires: OCT. 20, 2013

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
JOSEPH F SANTELLA
NOTARY PUBLIC
SPRINGFIELD TWP., DELAWARE COUNTY
My Commission Expires Oct. 20, 2013

6/11/13

Massachusetts Bay Transportation Authority

DBE AFFIDAVIT

STATE OF RI Date: 6/3/13

COUNTY OF PROVIDENCE

The undersigned being duly sworn, deposes and says that he/~~she~~ is the

VICE PRESIDENT

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of WOOD & WIRE FENCE CO., INC.

(Name of DBE)

05-0447294

(Federal ID number)

and certifies that since the date of its certification by

2-19-13 by SDO

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of

WOOD & WIRE FENCE CO., INC.

(Name of DBE)

Vice-President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 3rd day of JUNE, 2013.

Notary Public Susan Chapin

My commission expires: 9/15/16

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

DBE AFFIDAVIT

STATE OF _____ Date: _____

COUNTY OF _____

The undersigned being duly sworn, deposes and says that he/she is the

President / Owner

(sole owner, partner, president, treasurer or other duly authorized official of a corporation)

of Workplace Essentials

(Name of DBE)

04-3262816

(Federal ID number)

and certifies that since the date of its certification by

Massachusetts SDO Supplier Diversity Office

(SDO, formally known as SOMWBA)

the certification has not been revoked nor has it expired nor has there been any change in the minority status of Workplace Essentials

(Name of DBE)

Linda Pace Linda Pace - President

(Signature and Title of Person Making Affidavit)

Sworn to before me this 13 day of June, 2013.

Notary Public _____

My commission expires: March 17, 2017

ADRIEN R BOURQUE
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
March 17, 2017

NOTE: The Proposer must attach the DBE's most recent certification letter or document to this affidavit.

Section 11

Equal Employment Opportunity and Other Civil Rights Programs Evaluation Factor Information

MBCR

Section 11 – Equal Employment Opportunity and Other Civil Rights Programs Requirements Evaluation Factor Information

Overview

1. MBTA Objectives

A. An Operator whose Affirmative Action Plan displays a commitment to continual progress and is in complete compliance with Federal law, specifically the FTA Circular 4702.1B

B. An Operator that has developed an innovative strategy for increasing the workforce's number of minority and female employees, and providing a structure to encourage professional development and advancement

We continue to be strongly committed to expanding workforce diversity and inclusion. All employees, customers, and vendors are treated with dignity and respect, and provided equal employment and advancement opportunities. Additionally, we are equally committed to operating in comprehensive compliance of all federal, state, and FTA requirements regarding Affirmative Action ("AA").

In 2003, to formalize the goal of expanding employment opportunities for minorities, women, veterans, and individuals with disabilities, MBCR established the Equal Opportunity and Diversity Department ("EOD"), and the Workforce Diversity Advisory Council ("WDAC"), which is comprised of representatives from both Labor and Management. The joint objective of EOD and WDAC is to promote and sustain an inclusive workplace in order to continuously maximize creativity, quality, and productivity through a skilled and diverse workforce.

2. MBCR Key Achievements

The collaborative efforts of the EOD department and WDAC have resulted in the recognition of MBCR for striving to create a diverse and inclusive work environment where people are valued and respected.

We are more Diverse than Ever

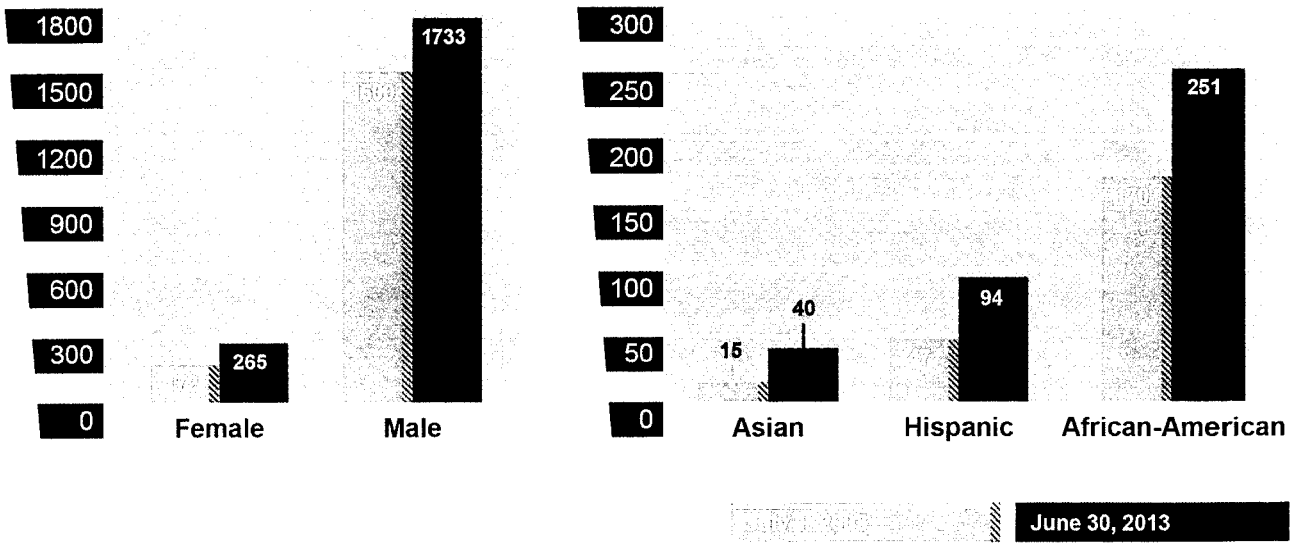
The success of these efforts is evident in our hiring statistics, which appear in the graph below. MBCR is proud to have surpassed our participation targets for diversity in our workforce, and recording our most successful year for hiring minority and female professionals (2012). As of June 2013, 29.2% of our workforce is comprised of minority and female employees. Our current percentage of minority and female employees is significantly higher than that of the previous Commuter Rail Contractor. When MBCR assumed the stewardship of the MBTA's Commuter Rail system, minority and female employees comprised only 15.1% of the workforce.

Our Progress is Recognized

In 2008, we received the "Stamp of Success" from the Partners in Transportation for hosting an outreach event to celebrate Asian-Pacific American Heritage month with communities throughout the Commuter Rail service area. In 2012, MBCR was awarded the "Business Partner of the Year" honor by the Conference of Minority Transportation Officials (COMTO) for contributing to more than a decade of events and programs aimed to educate minorities and youths on career paths and opportunities in the world of public transportation. Regarding diversity recruitment efforts, our EOD Department continues to improve by:

- Developing and securing partnerships with influential diversity organizations, most recently in 2012, the Urban League of Eastern Massachusetts and Cristo Rey;

Male/Female Hiring Statistics & Minority Hiring Statistics 2003-2013



Between July 1, 2003 and June 30, 2013, MBCR has increased its number of female employees by 54.1% and the number of its minority employees by 74.8%. This includes a 166.7% increase of Asian employees, a 100% increase of Hispanic employees, and 47.6% increase of African-American employees.

- Participating in minority, women, disability, veteran, and underserved members of our community recruitment events; and
- Sustaining an inclusive workplace through increased diversity, inclusion, and harassment prevention training.

We have Invested in our Workforce through Employee Development

Since 2003, MBCR has not only enhanced its workforce through improved diversity recruitment and retention efforts, but also through continually striving to provide promotion opportunities and career growth for women, minorities, veterans, and persons with disabilities. Since the commencement of the current contract, MBCR has initiated two career development programs aimed at providing minority and female employees with the training and skills necessary for promotion throughout our organization.

Starting in 2007, our management, in collaboration with EOD and HR, led a cultural change within the company by creating a career development program that provided mentorship and training to women and minorities in the workforce. This program was designed in-house to provide women and minorities with access to higher paying positions and increased responsibility. Since the program's launch, several female and minority employees have accepted promotions into higher responsibility roles, including Manager of Crew Utilization, Trainmaster, and Project Director. In the first year of the next contract term, MBCR plans to expand upon this program so that all MBCR employees have mentorship and advancement opportunities.

A second career development pilot program, focused specifically on the advancement of female employees, began in 2010 and was called "The Mentoring Achievement Program" (MAP). Lead by EOD, HR, and the Customer Service Department this program embodied MBCR's commitment to directly addressing the trend of women being traditionally underrepresented in the railroad industry. MAP paired women with supportive and experienced Manager-mentors who ensured that the participants in the program received adequate training and mentorship. As a result of a dedicated group of managers and the ambition of MBCR's women in the workforce, this program has been encouragingly successful. To date, women have been promoted into Conductor, Engineer, and Payroll Analyst positions as a result of the program's training and mentoring methods.

Chelsea Carr capitalized on training and mentorship opportunities to advance from an Assistant Conductor to a Locomotive Engineer

MBCR Continues to Pave the Way for a More Inclusive Workforce

Another noteworthy endeavor for MBCR's EOD and HR departments is the successful internship of a hearing-impaired Mechanical Engineer who was sourced from the Mass Rehabilitation Commission's (MRC) pool of job seekers. We took every measure to accommodate the applicant, and the applicant's fellow co-workers, so that the applicant's disability would have a minimal impact on the productivity of the team. For example, translators were brought onsite to assist in conveying information from the team leader and co-workers. Communication and safety training sessions were held for all employees, ensuring that both the applicant and the co-workers were adequately prepared to collaborate. Despite not joining the MBCR team, the applicant's experience at MBCR played an integral role in continuing to encourage our managers to hire affirmatively and to promote workplace inclusion of individuals with disabilities.

3. MBCR Key Future Commitments

For the next contract MBCR's EEO objectives will remain a high priority as we continue working to diversify and develop our workforce, as well as provide the critical diversity/inclusion training to the entire staff.

Please Note: *This "T light bulb" icon will be used throughout this section, and the proposal, to identify our proposed innovations for the next contract period.*

To continue our positive trend of expanding workforce diversity, our commitments for the next contract are as follows:

Continue Community Engagement through Partnership with ULEM and Cristo Rey Boston

The Urban League is a nationally renowned organization that works with communities to develop and provide ample opportunities for underserved minority professionals looking to gain access to sustainable employment. MBCR's strong relationship with the Urban League will provide positive recognition for the MBTA throughout Massachusetts' minority communities, while also taking measurable steps toward increasing diversity at MBCR. As an organization that is deeply rooted in Boston's culture and communities, working with the heavily connected Urban League of Eastern Massachusetts (ULEM) will lead to additional partnerships with other community based organizations.

In 2013, MBCR established a new partnership with Cristo Rey Boston, a Catholic private college preparation school that provides underprivileged students throughout Boston's communities with educational and work preparation opportunities. The Cristo Rey organization focuses on providing its students with real work experience as part of their preparation for graduation and planning a career path. The unique element of this internship program between MBCR and Cristo Rey Boston is that the time the students spend working for MBCR will contribute to paying each student's tuition. As a result, this program provides upcoming professionals with a conduit to both a quality education and real work experience that prepares them for life after academia in the Transportation Industry.

Continued Diversification

MBCR will increase workforce diversity by participating in at least 4 diversity-organization recruitment events annually. Through our continued participation in events throughout the Commonwealth, we will develop a large pool of qualified diversity professionals to source from throughout the next contract term.

Expanded Training

To promote continuous improvement throughout our workforce we will continue to provide comprehensive diversity, inclusion, and harassment prevention training. This training will ensure that MBCR is ultimately promoting a work environment free of discrimination, harassment, and retaliation.

Eliminating Barriers

MBCR will continue to promote inclusion by eliminating barriers preventing minority and female employees from joining the railroad industry, through enhanced recruitment efforts and job skill training.

By ensuring that we have programs and resources in place to provide employees with the support and training required, we can better outfit our workforce with qualified and dedicated employees.

Expanded Employee Mentoring

By providing mentorship opportunities that encourage job skill development and career progression, MBCR will maintain a workforce of ever-evolving experts. Starting in year one of the next contract period, MBCR will expand our existing mentoring programs to our entire workforce.

EEO and Other Civil Rights Programs Information

11.A Proposer Equity Member Affirmative Action Plans and Civil Rights Investigation Processes

11.A.1 Affirmative Action Policies

The following are summaries of each equity member's Affirmative Action programs and policies:

Alternate Concepts, Inc. (ACI) maintains a firm commitment to affording all individuals access to employment and promotion without regard for race, gender, gender identity, or national origin. Further, ACI, as a matter of policy, is committed to taking affirmative steps to reach out to traditionally disadvantaged minorities and protected classes. ACI affirms that, in compliance with applicable state and federal laws, it will provide equal opportunity to all employees and applicants for employment and will not discriminate against any employee or employment candidate on the basis of race, color, creed, religious belief, national origin, ancestry, marital or parental status, physical or mental disability, sexual orientation, age, and gender, except where any of these constitutes an occupational qualification. This policy of nondiscrimination applies to all aspects of employment, including advertising, recruitment, hiring, probation, training, and employee development, promotion, demotion, compensation and benefits, layoff and recall, social and recreational programs, employee facilities, termination and retirement.

Bombardier Transit Corporation's continuing policy affords equal employment opportunity to qualified individuals regardless of their race, color, religion, ancestry, national origin, age, sex, sexual orientation, gender identity, disability, AIDS/ARC, or veteran status and to conform to applicable laws and regulations. This policy of equal opportunity extends to all aspects of the employment relationship, including recruitment, application, initial recruitment, initial employment, promotion and transfer, selection for training opportunities, wage and salary administration, the application of service, retirement, seniority, benefit plan policies, and social and recreational events. Underlying this policy is the recognition by Bombardier Transit Corporation that its continued growth and business success depend on the development and utilization of the full range of the nation's human resources.

Veolia Transportation, Inc. (Veolia) is an Equal Opportunity Employer, committed to EEO for all persons, regardless of race, color, national origin, sex, gender identity, creed, age or disability to create and maintain a qualified and diverse workforce. Veolia is committed to the development of specific goals and timetables in the event of any underutilization of its human resources. Veolia will afford equal employment opportunities to employees and applicants, and will not tolerate discrimination based on gender, race, sex, religion, color, creed, age, national origin, ancestry, marital status, citizenship status, veteran status, disability, sexual orientation or any other factor prohibited by applicable federal, state or local law.

This policy applies to all terms, conditions, employment practices and privileges of employment including recruitment, selection, on-boarding, initial periods of employment, job assignments, training and development, working conditions, promotion, transfer, compensation, benefits, educational assistance, layoff and recall, social and recreation programs, termination and separation and other terms and conditions of employment.

11.A.2: MBCR Civil Rights Investigations

MBCR's policy HRPP-017 includes our policies Against Discrimination and Harassment, and EODPP-001, Equal Opportunity and Diversity which explicitly state that it is MBCR's responsibility to investigate, mediate, and resolve all complaints of discrimination as expeditiously as possible; all

while maintaining a high level of professionalism and confidentiality throughout the resolution process. While investigating a complaint, MBCR is impartial and acts solely as an advocate for the problem's peaceful and mutual resolution while maintaining full consideration of our employee's rights and all established MBCR employee policies.

Prior to entering more formal forms of conflict resolution, MBCR encourages open dialogue to resolve problems and disputes. This generally entails ongoing discussions between the employee and the identified offender. We enable and encourage employees to find fair resolutions to their respective workplace conflicts on their own, granting them ownership of the resolution process and a path to cooperation going forward. However, when incidents are unable to be resolved satisfactorily through open dialogue between a supervisor and an employee, MBCR escalates the problem resolution efforts by introducing internal conflict mediation, which is administered collaboratively by both our Chief of EOD and Manager of EOD. In these instances, the Chief of EOD is responsible for coordinating the mediation effort, while the Manager of EOD is responsible for leading the formal investigation aspect of the process. We believe it is important that our mediation process provides employees with an informal method of working out grievances without having to resort to a formal internal complaint process. The overarching goal of mediation is for the parties to work together to resolve issues so that they can continue to collaborate again in the future. Through integration in all EOD training, employees are made aware that they have a choice to file their complaint internally or externally at any of the federal or state anti-discrimination reporting agencies. For the next contract term we will continue to monitor and refine our investigation processes in order to further develop and encourage a positive work atmosphere for constructive and mutually beneficial employee engagement.

Collaborative Title VI Complaint Handling

MBCR's Equal Opportunity and Diversity Department takes all Title VI-related complaints seriously and is responsible for investigating, mediating, resolving, and reporting the resolution of all complaints to the MBTA. Under the current Operating Agreement, MBCR's EOD and Customer Service Departments play a support role to the MBTA's Title VI complaint handling process. Currently, MBCR's Customer Service Department receives Commuter Rail-related complaints from our company website and from the MBTA directly. Once a complaint has been filed and received, our Customer Service Department determines whether or not the complaint is based on discrimination as defined by Title VI, or on another matter. If a complaint is determined to be a Title VI violation, it is routed to our EOD department for the investigation and resolution process. Our Chief of EOD is responsible for managing the investigation process and ensuring a resolution is attained as quickly and as fairly as possible. Once a complaint has been resolved MBCR documents the process used and associated information gathered, and then reports the resolution to the MBTA. In addition to complaint resolution, MBCR will continue to be a supportive resource for the MBTA when they are conducting an Environmental Justice Analysis prior to implementing a change in service that could potentially have a negative effect on a class protected by Title VI, such as route schedule, fare rates, etc.

MBCR would like to assume a leadership role in the Title VI complaint handling process, and proposes the creation of an internal MBCR Title VI Program.

Proposed Internal MBCR Title VI Program

During the next contract period, MBCR would like to assume a leadership role in the Title VI complaint handling process, and proposes the creation of an internal MBCR Title VI Program. This new program, a transparent collaborative effort, will alleviate the MBTA from having to facilitate the complaint handling process, allowing the Agency to assume an overseer role. MBCR is prepared to develop and launch this program within year one of the next contract period. We anticipate our Title VI program addressing the following, and more:

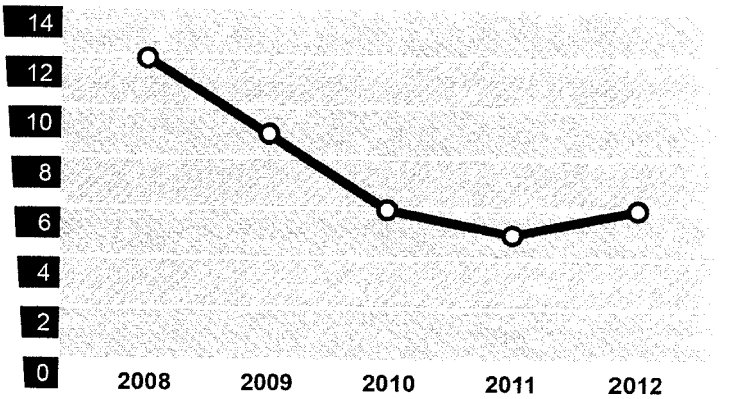
- Language assistance programs for Limited English Proficiency (LEP) customers/employees;
- Informative Title VI notices to public and instructions on how to file a Title VI complaint;
- Environmental Justice Analysis;
- Procedures for tracking and investigating Title VI complaints;
- A list of public transportation-related Title VI investigations, complaints and lawsuits.

11.A.3 MBCR's EEO/Affirmative Action Plan/Civil Rights Training Programs

Throughout the current contract MBCR has provided our growing workforce with comprehensive diversity and inclusion training, which are elements featured in each training module. Every opportunity to further train our workforce on issues of discrimination, diversity/inclusion, and harassment prevention expands awareness and tolerance throughout our ranks. Training has occurred on a rolling basis throughout each calendar year of the current contract, with our goal being to train at a minimum half of our workforce once a year. It all begins with a briefing on MBCR's Diversity, Civil Rights, and Affirmative Action policies, which is provided during the new hire orientation. With regard to specific training on diversity and inclusion, MBCR focused on training all Management staff from 2007 to 2008, then from 2008-2009 we extended the training to our entire Labor workforce. Since 2007, this training has been routinely ongoing at MBCR.

The effect of our training efforts is evident in the number of complaints filed to the Massachusetts Commission Against Discrimination (MCAD). In the span between 2007 and 2008, 12 employee complaints were filed. After completing the first round of training in the duration between 2007 and 2008, our management staff possessed a greater understanding of employee rights, and what type of behavior or incidents violate those rights. As a result of improved management techniques, in 2009 after our labor workforce had completed their training, the number of complaints dropped from 12 to 9. This decrease in filed complaints can be attributed to a better informed workforce who not only understood their workplace rights, but who also had a detailed understanding of the complaint filing process. After 2009, the number of complaints continued to drop as a result of managers having a better understanding of how to interact with their staff, and how to diffuse issues internally, thus preventing the filing of an external complaint. In the next contract it is our goal to record zero complaints for each ensuing year.

Filed MCAD Complaints



Workforce Development/Diversity

All new MBCR employees undergo a New Hire Orientation. This orientation includes a segment on Diversity and Harassment Prevention, which explores diversity and inclusion and how these terms are defined at MBCR. Our workplace is rapidly diversifying, so it is critical that all new hires learn the dimensions of diversity, and that diversity includes respecting those who speak a different language, observe religious practices, or work with a disability, to name a few of the protected categories. Training also covers Title VI so that new hires understand that everyone is entitled to MBCR's services regardless of race, gender, religion, color, marital status, creed, age, national origin, or any other differentiating factor protected by federal and state law. New hires also receive and sign an acknowledgement of receipt for copies of MBCR's policies, "Against Discrimination and Harassment", "Equal Opportunity and Diversity", and "Workplace Accommodation."

All training sessions are available to every MBCR employee, and are designed to be relevant to employees at all levels of the organization. The intent of each training session is to communicate to employees that MBCR adheres strictly to a Zero Tolerance policy regarding harassment, discrimination, and retaliation, and promotes diversity awareness and tolerance. As a result of this ongoing effort, we continue to develop and refine training modules for MBCR employees that feature some of the following courses: "Performance is Everything" and "Diversity and Preventing Harassment in Our Workplace". Each course is dedicated to comprehensive reviews of MBCR's EOD policies and group discussions to address employee questions or concerns.

After completing a course, MBCR employees are better suited to recognize and prevent unlawful harassment in the workplace. In addition to the mandatory training modules, MBCR also develops and posts supplemental training courses on our company intranet, SteelWheels, enabling employees to continue learning at their leisure. The supplemental modules include, but are not limited to:

- "Respectful Communications";
- "How to Give Constructive Feedback";
- "Self-Awareness Guide for Diversity Training", and
- "Micro-Inequities."

Beginning in 2008, MBCR initiated an effort to deliver improved EOD, AA, and Civil Rights training to employees. This effort resulted in the formation of a cadre of internal trainers, who were tasked with conducting initial and refresher training on diversity, inclusion, and discrimination and harassment prevention. Managers from across the organization were nominated by their department heads to drive this effort. Additionally, the cadre of internal trainers was comprised of WDAC member-managers, who in collaboration with the selected MBCR personnel, participated in a "Train the Trainer" program better preparing them for administering training to the workforce. A highlight of this training was a presentation covering the changing demographics of the Massachusetts workforce and why it is critical that MBCR welcome and foster diversity amongst employees. In 2009, MBCR conducted another training session for additional internal trainers, creating a robust team of diversity and harassment prevention trainers across our organization.

Thanks to the efforts of our internal training team, as of June 1, 2013 100% of labor employees have completed diversity and harassment training. This was a necessary achievement that addressed a critical need, since over time the MBCR workforce had grown to become far more diverse as a result of our EOD and HR departments' concerted efforts.

Through continuing education and awareness training, MBCR employees are being equipped with the professional skills that help them perform their jobs, but also the interpersonal skills that strengthen the bonds between coworkers and departments throughout MBCR and society at large.

We will continue to develop and enhance our training programs to maintain and augment diversity/inclusion and civil rights awareness into the next contract as issues evolve and our workforce continues to diversify. A major element of our future plan is the expansion of our internal training team, providing them with greater support from the EOD and HR departments, more manpower, and modern training software. Some of our current training programs that will continue into the next contract are:

- **Diversity/Inclusion Education, Awareness and Training**: These programs detail legal requirements managers need to abide by, as well as all relevant obligations, liabilities, and associated reporting for which managers are responsible. This training will continue in 2013 and onward toward the next contract's commencement. Moving forward we will dedicate resources to the formation of an expanded in-house training committee that will develop initial and refresher training programs on diversity/inclusion, Civil Rights, discrimination and harassment prevention.

MBCR also will provide a similar training course to Labor staff, which will aim to educate them on their Civil Rights as MBCR employees, and encourage continuing awareness of how they are being treated in the workplace. This training is ongoing, and will continue in 2013, onward into the next contract period.

Our workforce is comprised of a diverse group of dedicated professionals who derive pleasure from collaborating to provide a service for the citizens of the Commonwealth.

- **New Hire Orientation**: MBCR believes each employee's commitment to our environment of inclusion begins on day one. For the next contract all new employees will be required to sign off on the MBTA "Dignity in the Workplace" policy, which informs them of all active MBTA policies and procedures related to employee diversity/inclusion. In addition to the MBTA policy, new hires will also sign off on and be trained to comply with MBCR's relevant harassment, retaliation, and discrimination policies. This ensures awareness and comprehension of MBCR's strong commitment to workforce inclusion, and serves as official documentation that all new employees have been trained on all active discrimination and inclusion policies.
- **Diversity Training for Frontline, Customer-Facing Employees**: Biennially, MBCR promotes its Zero Tolerance message and policies through comprehensive training for all customer-facing employees. The aim of this particular training initiative is to educate all frontline personnel on MBCR's policies (including Title VI) and guidelines for interacting with other MBCR employees and passengers. The curriculum for this training is comprised of several training modules, including but not limited to "How Can I Help You Today?" and "Diversity/Harassment Prevention Training". Through the enforcement of the policies and conduct guidelines detailed in this training, MBCR employees are encouraged to foster a tolerant and respectful work environment and to make daily contributions to overall customer satisfaction. In order to remain compliant with current federal, state and local laws, MBCR requires all employees to participate in refresher diversity training every two years, and to sign-off on their participation.
- **"Managing Within the Law" for Operation Managers**: This training program is currently being adapted from our partner, Veolia Transportation, and places a specific emphasis on training all management personnel and their supporting staff on the lawful and company supported Civil Rights, diversity/inclusion, and anti-harassment/discrimination policies. The goal is to train all management staff to instill professionalism and tolerance into the MBCR workforce, further promoting the benefits that a diverse staff provides. MBCR will have this new training program implemented by Q4 of 2013, and will make participation mandatory for all new management hires and existing management staff.

MBCR is committed to having management complete initial and refresher training on Civil Rights, diversity, inclusion and harassment prevention by commencement of the new contract to further instill our company values and beliefs. We will oversee this new managerial training initiative, and others, by making use of our new Learning Management System (LMS), SuccessFactors, an online program managed by our HR department. This new tool, if approved by the MBTA IT Change Board, will further organize our training records, and help HR manage employee training initiatives across the organization. MBCR will develop an aggressive curriculum that managers will leverage to further develop and maintain a companywide work environment that is conducive to productivity and fulfilling the objectives of the MBTA's contract. Online refresher courses for harassment, inclusion, and discrimination training will be provided biennially for managers and non-managers.

Training in Collaboration with MBTA and MassDOT

Throughout our current contract, MBCR has partnered with the MBTA on many initiatives to ensure our goals for EEO are aligned and that we are collaborating to achieve them. We will continue to nurture this partnership into the next contract term through participation in the following joint training programs, and the potential development of other joint initiatives.

MassDOT University: MBCR was part of a multi-agency effort to develop a training program to further refine the professional skill sets of MassDOT, MBTA, and MBCR employees. The objective was to enhance employee versatility and add to their respective qualifications in order to be considered for promotions and new positions. Most recently in 2012, MassDOT incorporated another MBCR-developed training course focused on educating employees on the best practices for terrorism prevention and threat awareness.

"How Can I Help You Today?" Training Program: MBCR's Customer Service and EOD departments dedicated five years to refining the program in-house, playing an key role in creating content for this program and its handbook. MBCR continues to participate in MassDOT University and has plans to make future contributions relevant to training that meets the needs of our workforce.

MBCR was recognized by MassDOT for providing quality additions to the multi-agency training programs, particularly ones that represented industry best practice and innovative, forward thinking.

11.A.4 Recruitment/Outreach and Employment Practices

Throughout the existing contract, MBCR has established collaborative relationships with leading diversity organizations to gain exposure and recognition for our organization. These relationships enable us to further attract qualified, diversity candidates to our workforce and remove barriers that prevent career progression. The following initiatives are representative of this philosophy and our efforts to fulfill diversity objectives in 2012:

Smart Employee Recruiting in Collaboration with Shriver Job Corps / Transportation Communications Union (TCU) and the International Association of Machinists (IAM): Throughout our tenure as the MBTA's Commuter Rail Operator, MBCR has maintained and developed a 10 year relationship with the nationally renowned Shriver Job Corps Organization that works directly with the TCU and IAM to train and prepare young, ambitious individuals for a successful career in the Transportation industry. This organization is a great resource for MBCR, as they provide pre-trained, qualified individuals from all over the country who are prepared to provide a positive impact on day one. Early in our relationship, Job Corps began routinely providing candidates for MBCR to consider for filling current openings in our organization. A highlight of our relationship has been the recruitment of a highly qualified female student from Job Corps, who is currently completing Locomotive Engineer training. We are proud to welcome her into the ranks of our Locomotive Engineers.

Recently, MBCR has expanded our relationship with Job Corps to provide temporary employment opportunities. Specifically, we have recently completed a passenger counting project, which was fueled by the efforts of 13 Job Corps students. We maintain an ongoing relationship with their office at Fort Devens, and during the next contract period MBCR will continue to support the goals of Job Corps by providing employment and internship opportunities to their students.

MBCR Hosted Recruitment and Outreach Events: MBCR, in conjunction with Partners in Transportation, regularly hosts and organizes diversity celebrations in rotation with other member transportation organizations. We host several events annually, including Women's History Month, Hispanic Heritage Month, and the Asian Pacific-American Heritage Month Celebration, all held at the Massachusetts Transportation Center. As evidenced in the opening pages of this section, all of our combined outreach and recruitment efforts contributed to the positive hiring trend of diversity professionals, and have resulted in 2012 being our most successful year for attracting and maintaining minority and female employees.

Greater Boston Employers' Advisory Board (GBEAB) of the Massachusetts Rehabilitation Commission ("MRC"): As members of the advisory board, MBCR's EOD staff participates in quarterly meetings to make the MRC aware of opportunities offered by MBCR and assist individuals with disabilities in their job search by providing resume critiques, mock interviews, and information on job openings. In 2012, MBCR participated in a very successful "On-The-Job Evaluation" for a job applicant referred by the GBEAB.

Diversity Jobs Symposium: Our EOD department pioneered the concept and launched the Diversity Jobs Symposium in 2007. In the spring of 2012, MBCR's EOD staff, in conjunction with the Executive Office of Transportation / Public Works, the MBTA, Massport, Massachusetts Turnpike Authority, and Mass Highway, conducted another Diversity Jobs Symposium at the Massachusetts Transportation Building. The purpose of this Diversity Jobs Symposium is to assemble related transportation organizations to present information on the variety of attractive career opportunities available throughout the state. Over years of participation, MBCR has successfully hired ten candidates from this annual event. In 2012, the Symposium brought a rich pool of professionals from which we hired four Hispanic candidates into engineering roles, helping to establish a greater Hispanic presence in our Engineering department.

Excerpt From MRC Thank You Letter:

"Thank you for making a difference in the life of [The Applicant], consumer of the Massachusetts Rehabilitation Commission. Each of you played such an important role in creating a very successful internship. [The Applicant] had graduated with a degree in Mechanical Engineering, but did not have an internship in college. Before we began working together, [The Applicant] had sent out more than 100 resumes to various companies around the country with very few responses. The goal was to create an On-The-Job Evaluation (OJE) that would develop skills and add work experience to [The Applicant's] resume. Once again thank you for making a difference."

-Karen Beth Mael, Employment Specialist, MRC

Boston Asian/Chinatown Coalition Annual Job Fair: MBCR/EOD staff worked with the Chinatown Coalition to coordinate and participate in the annual job fair in the Massachusetts Transportation Building. This event is an annual success, bringing in hundreds of skilled candidates, mostly of Asian descent, and providing them with the opportunity to learn about careers at MBCR. To date, MBCR has made several candidates offers of employment. MBCR participates in this event alongside: The Asian American Civic Association, Citibank, Citizens Bank, Harvard Vanguard Medical, Hyatt Regency, Quincy College, Tufts University, UPS, Vinfen Corporation, and Millennium Training Institute.

Other 2012 MBCR diversity outreach and recruiting events:

Each of the following events contributed to making 2012 MBCR's benchmark year for diversity outreach and recruitment:

- Outreach and participation in "Women in Construction" events
- MBCR attended several Women's Transportation Seminar outreach events
- Northeastern University for Veterans Job Fair
- Mass Maritime Academy Job Fair
- UMASS Lowell's Center for Women in Work recruitment and outreach events
- El Mundo (Boston Latino newspaper) Job Fair
- Roxbury Community College job Fair
- Urban League of Eastern Mass. Job Fair
- Department of Employment and Training (DET) Job Fair
- New England Industry Liaison Group, Individuals with Disabilities and Veterans

For the next contract term, MBCR is preparing the following initiatives to support our diversity goals, within year one:

- Expanding our collaboration with universities/technical schools throughout Boston, creating more diversity internship/employment opportunities for aspiring diversity professionals. Such institutions include, but are not limited to, Shriver Job Corps, Cristo Rey Boston, Wentworth Institute of Technology, Madison Park High school, Tech Apprentice, Benjamin Franklin Institute of Technology, Newbury College, UMASS-Boston, UMASS-Lowell, Suffolk University, Simmons College, Boston University, and the Massachusetts Maritime Academy.
- Leveraging our partnership with the Urban League of Eastern Massachusetts to further expand our portfolio of activity, including co-sponsored events and more aggressive recruiting activity.

Employment Practices

MBCR will continue to adhere to the best equal employment opportunity practices. Additionally our team of seasoned diversity professionals will leverage their experience and innovative thinking to continually strive to ensure that MBCR is not only utilizing the industry's best practices, but contributing to the pool by creating solutions that lead to improved diversity, and an increasingly productive workforce. The foundation of our employment practices is our commitment to lawful compliance, and our management's dedication and accountability to our internal, and the MBTA's, EEO objectives.

Open Doors and Open Communication

At MBCR each employee has the right to work in an environment that is free of harassment, discrimination, retaliation, judgment, or employment actions based on any of the following factors: gender, gender identity, race, sex, religion, color, creed, age, national origin, sexual orientation, ancestry, marital status, citizenship status, veteran status, disability, or any other factor prohibited by applicable federal, state, or local law. At the foundation of our efforts to diversify our workforce is a commitment to open communication between Labor and Management. Our open-door policy conveys the message to all employees that MBCR employees all have an equal voice to ask questions and express concerns. By maintaining a working environment where all employees are free to express concerns, we are providing a place of employment where individuals are able to prosper collaboratively, with a positive morale and team-oriented mentality.

An example of this theory translating into action is seen in the town hall style meeting held in 2005 by our General Manager. This open forum style meeting enabled geographically dispersed employees to login virtually to the meeting and communicate concerns and questions directly. This event is representative of MBCR's dedication to ensuring that every employee, from every department, is aware that they have a voice in how the operation is run, and is openly encouraged to share their thoughts and opinions. For the next contract period, MBCR will host more of these events on a biennial basis.

A Unique Collaborative Union between EOD and HR

In an attempt to further bolster efforts to foster diversity and develop best employment practices, we have created a unique collaborative bond between the EOD and HR departments. As a result, these departments work in tandem to achieve diversity goals, and to ensure that we continue to develop a work environment free of discrimination, harassment, and retaliation through continual Civil Rights and diversity awareness training. Lead by our Chief of EOD and Director of HR, each department plays an equal role in developing policies and strategies to address employee issues, and to ensure that the work environment at all MBCR sites and offices is conducive to a high level of productivity and general worker satisfaction.

11.B Affirmative Action Draft Plan

MBCR's EOD Department, in collaboration with Gaucher Associates, drafted our AA Plan. To view the full plan, see Attachment at the end of this section. In 2012-2013 MBCR met requirements set for minorities, but for 2014 we have plans to surpass these goals and further diversify our workforce.

MBCR Diversity Key Performance Indicators (KPIs)

In order to gauge our progress in a transparent and accountable manner, we are committed to Key Performance Indicators (KPIs) to set expectations, manage performance and enhance the transparency of our EOD Department. These will be directly influenced by the successful implementation of the outlined EOD strategies and matching programs outlined previously.

Performance Indicator	Baseline 2013	Target 2021	Accountability
Minority, Female, Veteran, and Individuals with Disabilities: % of New Hires	34.5%	40%	General Manager Chief of EOD Director of HR
Minority, Female, Veteran, and Individuals with Disabilities : % of Workforce	29.2%	38%	General Manager Chief of EOD Director of HR

11.C Best Practices Support

MBCR's goal is to recruit and develop a diverse workforce that is capable of adhering to MBCR's standards of tolerance, quality, and efficiency. As a result of this goal, we are pursuing various innovative ideas and implementing various industry best practices (indicated by the ♀ "light bulb" icon) which will positively impact the MBTA service.

Initiative	SECTION	Category	Validating Information
Collaborative Diversity Recruiting	11.A.4	Best Practice, Benefit to MBTA customers	MBCR works closely with Community-Based Diversity Organizations (CBO) to support the mutually beneficial goal of hiring diversity candidates from their respective pool of diversity applicants. Leveraging relationships with reputable diversity organizations such as Shriver Job Corps TCU/IAM and the Urban League we source qualified, pre-trained, ambitious candidates from all over the country.

Initiative	Section	Category	Validating Information
Expanded Employee Development Program	Section 2: MBCR Key Achievements: Employee Development	Best Practice	By expanding our mentoring program to all employees, we will be able to ensure clear paths to promotions and more career development options. Additionally our mentoring program will also support MBCR's succession planning for the future.
Involvement with Major Diversity Organizations to Support Local Community Development	Section 3: MBCR Key Future Commitments: Community Engagement; 11.A.4	Innovation, Benefit to MBTA customers	It is critical to support Boston's disadvantaged communities by collaborating with established CBOs to provide employment opportunities for diversity professionals looking to work in Transportation. We have developed relationships with nationally recognized diversity organizations such as the Cristo Rey Boston, Madison Park Technical School, and the Urban League, to name a few.
Enhanced Employee Training and Organization	11.A.3	Best Practice	SuccessFactors, a reputable Learning Management System (LMS) will augment our workforce development initiatives by providing a tool that better organizes, manages and tracks employee training and certification processes.

Summary

MBCR prides itself on being an organization that evolves based on the growth and development of our diverse workforce. We firmly believe that the best investment to make today, to ensure a progressive and profitable tomorrow, is in the continuous development of every employee. MBCR's EOD and HR departments have taken measurable and practical steps toward improving diversity outreach throughout Massachusetts, enhancing the MBCR training program, and eliminating barriers that prevent diversity professionals from joining the ranks of a dynamic passenger rail organization. As detailed throughout this section of our proposal, MBCR places a strong emphasis on recruiting diverse candidates and providing them with an inclusive, harassment-free work environment, paired with increasing opportunities to expand and further develop their railroad careers.

DRAFT Affirmative
Action Plan

DRAFT

Affirmative Action Plan

MBCR

Section 12 -
Mobilization Plan

Section 12

Mobilization Plan Evaluation Factor Information

MBCR

Section 12 – Mobilization Plan Evaluation Factor Information

Overview

1. MBTA Objectives

A. An Operator that is capable of ensuring a seamless transition between contracts for customers and employees

B. An Operator capable of establishing operational support and administrative functions in a timely and professional manner

C. An Operator dedicated to maintaining open communication with the MBTA

D. An Operator that minimizes mobilization and contract costs to the MBTA

MBCR intends to make full use of the Mobilization Period to set the stage for implementing a host of technology improvements and for introducing innovations designed to enhance operations and maintenance performance.

2. MBCR Key Achievements

MBCR's Mobilization effort will be focused on completing all of the MBTA's objectives as well as implementing our suggested improvements. While taking actions to meet the new requirements, we will continue to deliver safe and high quality service to the MBTA's customers.

In 2002, MBCR delivered a seamless and cost efficient Mobilization of the Commuter Rail service as we assumed the role of the MBTA's selected Operator. During the mobilization effort, MBCR leveraged the experience and expertise of our seasoned management team to coordinate all activities and ensure that we would be prepared to not only deliver the service the MBTA's customers were accustomed to, but to begin implementing improvements. Looking forward to the next Mobilization Period, we are prepared to leverage that experience, along with over 10 years' of experience of operating the System, to deliver an organized, cost efficient, seamless transition from the current Operating Agreement, to the new Operating Agreement.

3. MBCR Key Future Commitments

MBCR's overarching goal is for our customers, both the riding public and the MBTA, to experience a smooth transition between contract periods, and to enjoy noticeable improvements upon the next contract's commencement. The major elements of our planned Mobilization effort are as follows:

- **MBCR's Innovations and Service Improvement Initiatives**:

As the incumbent Operator, we believe that beginning the next contract period with tangible improvements throughout the entire Commuter Rail Operation is the ideal way to display our ongoing dedication to partnering with the MBTA to modernize the Commuter Rail Service. As a result, we have analyzed our operations, reviewed industry best practices and leading-edge technologies, and developed targeted initiatives to attain noticeable operational progress. These efforts combined with the updated requirements for the new Operating Agreement will result in improved customer service and satisfaction.

- **The MBTA provided Operator Deliverable Requirements List (ODRL)**:

  MBCR is committed to meeting all of the outlined ODRLs detailed in the Operating Agreement. We will use the Mobilization Period to address these Operating Agreement requirements, while maintaining open lines of communication with the MBTA to ensure satisfactory content of each ODRL.

- **Preparation of the revamped Commuter Rail IT Environment**:

  During the Mobilization Period, MBCR will work closely with the MBTA to implement all required changes to the Commuter Rail IT Environment. Additionally, MBCR will implement innovative improvements to the Commuter Rail IT Environment that will further modernize our operations, and support MBCR's continued shift toward a more analytic, data-driven organization.

- **Meeting the requirements of the Initial Joint Audit**:

  MBCR will fulfill all requirements detailed in Schedule 4.1 Section 3 with regard to the required Initial Joint Audit. We understand that completion of this audit is a condition precedent to the issuance of the Notice to Commence Services, and is being conducted to establish the condition of the Commuter Rail Property and the quantities and condition of the Support Inventory as of the next contract period's commencement date.

Please Note: *This "T light bulb" icon will be used throughout this section, and the proposal, to identify our proposed innovations for the next contract period.*

Mobilization Information

12.A Mobilization Plan

12.A.1 MBCR Mobilization Period Management Approach and Staffing

MBCR General Manager Bonnie J. Murphy will be in charge of Mobilization. She will manage the Mobilization Team, including all subcontractors and consultants, and will have final approval of all Mobilization products and deliverables. The GM will report directly to MBCR's Board of Directors to provide progress updates, and to obtain any necessary direction throughout the Mobilization Period.

Ms. Murphy will be supported by key MBCR staff and a small number of temporary hires dedicated to ensuring a successful Mobilization effort. MBCR will strategically organize our staff and external resources during Mobilization to meet all Operating Agreement requirements.

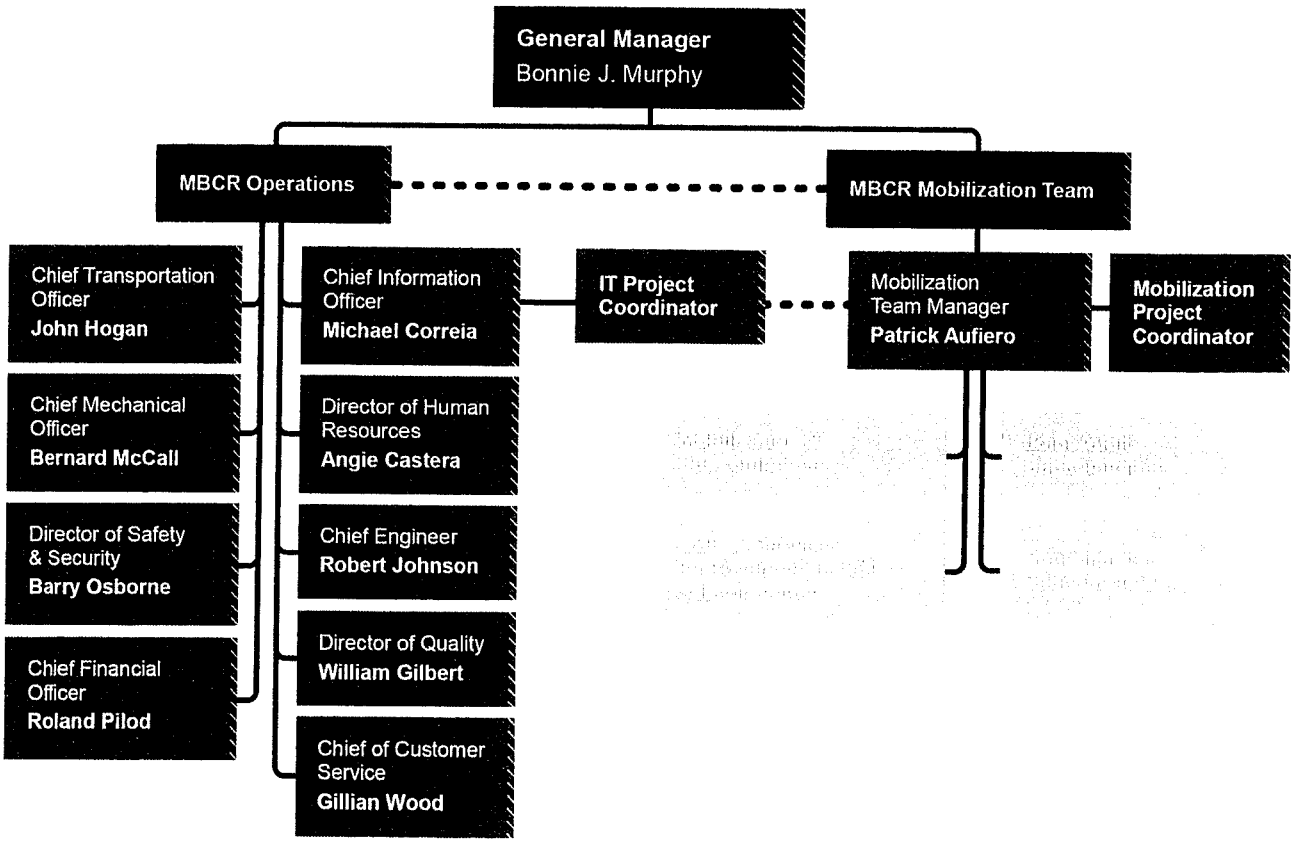
The agenda of work described above will require considerable internal planning, coordination and manpower resources. To coordinate the work on a day-to-day basis, MBCR will appoint Patrick Aufiero as MBCR's full-time Mobilization Team Manager. Mr. Aufiero has led the development and production of MBCR's response to the MBTA's RFP for the new contract period, and possesses extensive knowledge of the MBTA's stated requirements. He is thoroughly familiar with MBCR's expressed commitments and plans for the new contract period. In addition, Mr. Aufiero has developed strong working relationships with the MBCR staff that will be key players in MBCR's success in the Mobilization Period and beyond.

Mr. Aufiero will report directly to the General Manager for the duration of the Mobilization Period. The Mobilization Team Manager will be responsible for overall quality, progress, coordination, problem resolution, budget control and ongoing reporting. Supporting the Mobilization Manager will be a Mobilization Project Coordinator responsible for developing and maintaining a schedule-based Readiness Log for tracking work progress, and for reporting status (including all schedule variances) for each initiative. Lastly, the IT Department will appoint an IT Project Coordinator to support the IT elements of our Mobilization efforts. The IT Project Coordinator will help track deliverables, budgets, and coordinate with stakeholders. All of the IT Project Coordinator's activity will be jointly managed by the Mobilization Team Manager and MBCR's Chief Information Officer.

In order to provide effective intra-organization coordination, MBCR will establish three working mobilization committees: one for ODRLs and service improvement initiatives, a second for IT projects, and a third to address the Joint Audit. All three committees will meet weekly and will be co-chaired by Mr. Aufiero and appropriate MBCR Department Head(s), as appropriate. The role of the committees will be to vet reports and projects before they are submitted to the General Manager for final approval and forwarding to the MBTA. In addition, the entire senior management team will meet periodically to review progress. Finally, MBCR's Board will hold monthly meetings to review Mobilization status and ensure accountability for meeting all Mobilization targets.

At every Mobilization progress meeting, MBCR will review the Readiness Log in order to track and manage the progress of every Mobilization initiative. As it was in the 2003 Mobilization Period, we foresee this log being a valuable resource for both the MBTA and MBCR, as it will play a critical role in ensuring that we are on a cost effective fast-track toward completing all required Mobilization activity, as well as our internal plans for improvement. During the Mobilization Period, MBCR's Operations will be organized as follows:

Mobilization Organization Chart



Subcontractors

During the Mobilization Period, the MBCR team will be supported by a number of subcontractors, many of whom will continue work into the Agreement Services period. Subcontractors will be employed to assist the team with specific technical, supply, and administrative functions where their expertise can maximize MBCR's effectiveness. The larger subcontractors that MBCR will employ during the Mobilization Period include:

Transportation:

ORTEC North America is an organization focused on the specific needs of supply chain management in the Consumer Goods, Retail, and Transportation industries. During Mobilization, a team of ORTEC consultants will assist MBCR's Transportation and IT Departments as we add new modules and functionality to our ORTEC software. All of ORTEC's activity will be managed by MBCR's Director of Operations Planning, John Orrison.

Customer Service:

Russell Cress Company Inc. is a certified Disadvantaged Business Entity (DBE) that specializes in leveraging custom design and fabrication to develop high quality display products for Mass transit terminals. During the Mobilization Period, Russell Cress Company will work with our Customer Service Department to design and create new station signage for all Commuter Rail locations to better direct and inform our riders. All of their activity will be managed by MBCR's Chief of Customer Service, Gillian Wood.

Information Technology:

Corporate IT Solutions is a local information technology expert that specializes in IT projects ranging from a single project to a complete IT system overhaul. Corporate IT Solutions has experience working with MBCR partner ACI on other rail-related projects. MBCR has contracted Corporate IT to assist in the development of our IT Plan and the preparation of the Commuter Rail IT Environment for the next contract's commencement. All of Corporate IT Solution's activity will be coordinated and monitored by MBCR's Chief Information Officer, Michael Correia.

iCorp Technologies is a full-service IT consulting and IT outsourcing firm for businesses in and around Boston, New York City, and Philadelphia. They are being contracted to leverage their expertise and knowledge of industry best practices to work collaboratively with MBCR's IT Department to develop a comprehensive Information Security Program that is compliant with Schedule 3.17 of the Operating Agreement. All of iCorp Technologies activity will be managed by MBCR's Chief Information Officer, Michael Correia.

Engineering:

HDR is an international firm providing architecture, consulting, engineering, and construction expertise. HDR provides technical expertise for the right-of-way projects. During the Mobilization Period, HDR will assist MBCR in updating the Engineering Services Plan and completing the Joint Audit, and will be managed by MBCR Assistant Chief of Engineering Operations, Paul O'Leary.

12.A.2 Employee Hiring Plans

The stability of the transition to the new contract period will be enhanced by the existence of MBCR's signed Collective Bargaining Agreements with all of the Commuter Rail labor unions. Currently, MBCR does not have any major hiring needs that will need to be addressed during the Mobilization Period. Consequently, we will be able to focus our efforts on training and preparing our Operating Staff for the next contract period's requirements.

MBCR will make various strategic hires or retain contracted services during the Mobilization Period to fill the following roles that will be critical for Mobilization/Year 1 activities:

- A second Environmental Manager
- A Manager of Training: Engineering
- Roadmaster for Equipment Training
- Operator Service Center Supervisor
- IT Supervisor of Quality Assurance and IT Compliance
- IT Administrator
- Technical Writer
- Software Developer
- Software Application Specialist
- Security Officer/ Deputy CIO
- SharePoint Administrator
- Fleet Management Manager

12.A.4 Description of Training Programs

At MBCR every employee is actively engaged in an ongoing educational effort, established to ensure that the workforce is continuously improving and adding best practices and techniques to their respective skill sets. MBCR keeps all employees' professional knowledge updated through internal education programs in conjunction with training programs hosted by the MBTA and MassDOT (e.g. MassDOT University). A highly educated workforce, trained specifically on how to best carry out their daily responsibilities, in accordance with all safety, health, and environmental guidelines, is one of the most important investments that MBCR can make. Starting in 2003, and continuing to present day, MBCR has passionately invested in the education and development of the workforce, and will continue this effort into the new contract. For more information on Training at MBCR, please see Supplemental Appendix 7- Training.

Operations & Maintenance Agreement Training

MBCR will provide significant training to our Workforce during the Mobilization Period.

Management Staff

In order to ensure that all department leaders at MBCR possess a thorough understanding of the requirements of the new Operating Agreement, we will conduct a training course during the Mobilization Period to educate our management staff on what specific elements differ between the previous Operating Agreement from the new Operating Agreement. As required by ODRL 3.10-023 MBCR's management staff will have completed this course prior to 60 days after the issuance of the Notice to Proceed (NTP).

Labor Staff

Training sessions, held for new hires and existing employees, will discuss in detail the MBTA-MBCR Operating Agreement, the relationship with the MBTA, and how each employee will contribute to the success of that relationship and the operation of the Commuter Rail System. These training sessions will also stress the importance of MBCR's two customers—the MBTA and the Commuter Rail passengers—and the operating and customer service standards that each employee is expected to deliver. At the completion of this training, every MBCR employee (including management) will have a clear understanding of:

- The objectives of MBTA Commuter Rail service;
- The basic process by which contract services will be delivered;
- The MBCR corporate culture, Customer Service requirements and program;
- How each employee individually participates and supports the overall process;
- Employees' individual roles, making sure they are prepared to properly fulfill their assignments;
- Each employee's personal accountability for the quality of his/her work.

MBCR is committed to completing this training, for our entire labor staff, within the first 6 months of the new contract period. By adhering to this deadline, we will be able to ensure compliance with ODRL 3.10-024.

National Incident Management System (NIMS) Training

For the next contract period, MBCR will ensure that our General Manager and all Operational Managers are trained and certified to coordinate emergency preparedness and incident management among various federal, state, and local agencies in response to operational emergencies, natural disasters, or terrorist attacks. Our General Manager and Operational Managers will become certified in the following NIMS training modules: Incident Management Systems (ICS): 100, 200, 300, 400, 700, 701, and 703.

All other employees, including subcontractor personnel, will receive fundamental NIMS training to enable them to manage emergencies until a senior railroad official certified in NIMS, or until an emergency responder, arrives on the scene. Specifically, all labor staff and subcontractor employees will be trained on NIMS training module ICS 100.

All NIMS training will be completed through FEMA's online courses, and when specific courses are not available online, they will be administered by a certified FEMA trainer either onsite at MBCR's offices, or at one of the several classroom locations provided by the trainers throughout Massachusetts.

This awareness training is also integrated into training for new hires. The overarching goal is to operate the MBTA's Commuter Rail system with a management team and workforce that is consistently prepared to tackle any challenges that may arise.

12.A.5 Transition and Service Continuity Plan

In 2003, MBCR displayed a clear understanding and appreciation of the importance of coordinating a smooth and seamless transition while assuming control of the Commuter Rail System. Today, as the incumbent, MBCR sees the Mobilization Period as an opportunity to further refine our service offering, and to deliver upon our planned initiatives for improvement. We do not foresee encountering any service continuity issues, and will spend the Mobilization Period focused on compliance with the new Operating Agreement and introducing improvements to the Commuter Rail System.

Collaboration with the MBTA

Open communication between MBCR and MBTA during Mobilization will be essential. MBCR's overall Mobilization strategy contains several specific elements to keep the team goal-oriented. We foresee continuous contact with the MBTA throughout the process, including weekly progress meetings between MBCR and the MBTA. At each meeting the MBCR Mobilization Team Manager will be updating and maintaining our Readiness Log, which will be made readily available to the MBTA upon request.

Implementing Improvements to the Commuter Rail System

MBCR has developed a number of innovative initiatives that it plans to implement on Day One of the new Contract Period. Other initiatives will begin during Mobilization, and continue on into the contract period. All of these initiatives will improve the customer experience, decrease operating costs, and/or further develop a skilled workforce. MBCR has the basic business systems, such as payroll and accounting systems, already in place, which will allow us to dedicate substantial resources to setting up entirely new operational systems during Mobilization Period. All scheduled MBCR improvement initiatives are described in detail throughout Sections 1 through 11 of this Proposal. The table below summarizes some of these proposed non-IT initiatives. **Note**: See Section 12.A.9 for information on IT-related improvement initiatives.

MBCR's Major Innovation Initiatives	
Transportation	• Continue roll out of Conductor Companion • Conduct updates to Ortec System • Implement Executive KPI Dashboard
Mechanical	• Complete implementation plan for World Class Operations & Maintenance (WCO&M) • Implement Lifecycle Maintenance • Purchase new Mobile Fueling Truck • Introduce Alternating Current Field Measurement (ACFM) • Complete Reorganization of Departmental Management • Initiate Restructuring of Technical Staff • Implement Fleet Management Team • Establish Maintenance Operations Control Center • Complete Kitting initiative for Mechanical staff
Engineering	• Create Engineering Planning Team • Implement Work Scheduling Software (Trapeze) • Establish MBCR Bar Coding system to enhance inventory management of linear asset materials
Customer Service	• Develop Lost and Found web-based tool • Design and install updated station signage
Disadvantaged Business Enterprise (DBE)	• Conduct DBE Outreach session
Equal Employment and Opportunity	• Finalize requirements analysis for the Learning Management System (Success Factors) • Develop company-wide "Mentoring Achievement Program"

12.A.6 Temporary Physical Plant Requirements

As the current Operator of the MBTA's Commuter Rail Service, MBCR does not have any additional temporary physical plant requirements. We had established a temporary space dedicated to the new contract's re-bid activities and that same space at 186 South Street will be available as necessary for Mobilization activities.

12.A.7 Access Arrangements Required From the MBTA

As the current Operator of the MBTA's Commuter Rail Service, MBCR does not need any additional access arrangements from the MBTA.

12.A.8 Support Required from MBTA

Throughout the current contract term, MBCR has benefited from the MBTA's ongoing support and feedback. As we progress through the Mobilization Period, MBCR will require the continuation of support from the MBTA's in relation to two major topics **1)** Commuter Rail IT Environment and **2)** ODRLs. Specifically, MBCR will need to collaborate with the MBTA on the following:

› MBCR will need the MBTA's support regarding IT-related planning and coordination efforts, specifically covering the following elements:

- Data Communications
- System Support
- System Architecture
- Systems Integration and Interfaces
- Roles and Responsibilities
- Data centers
- IT Asset Management Software upgrade
- Issue Tracking Portal implementation
- Operator Service Center

› MBCR would like to work with the MBTA to review the required ODRLs and its expectations for deliverables. By maintaining open lines of communication with the MBTA regarding the ODRLs, MBCR will meet all deadlines, and additionally anticipates being able to suggest cost-saving initiatives that can make the Mobilization effort less costly for the MBTA.

12.A.9 Information Management/Commuter Rail IT Environment

MBCR considers the establishment of a current and secure Commuter Rail IT Environment to be an absolute necessity for effective operation of the Commuter Rail Service. In order to develop the information systems and network architecture needed to update and manage this contract's requirements, MBCR will continue to revise and refine the Commuter Rail IT Services Plan. For each IT-related initiative in our Mobilization Plan, the MBCR IT Department will adhere to the Best Practices detailed by the Project Management Institute (PMI). For more information on PMI best practices, please see Proposal Section 9.A.11 Project Management.

As detailed extensively in Section 9 of this Proposal, significant IT initiatives are planned for the new Contract Period. Currently, there are nine major initiatives that the MBCR IT Department will address during the Mobilization Period, detailed as follows:

1. Digital Repository

The Digital Repository including Document Management and Configuration Management, are key components of MBCR's knowledge management solution and information sharing with the MBTA. The Digital Repository will include all items as described in MBCR's Proposal Section 9.A.10-Digital Policy and Section 9.A.11-Configuration Management.

Approach

MBCR will launch this initiative by engaging Corporate IT Solutions for implementation consulting support. Leveraging their expertise, we will introduce Microsoft SharePoint 2013 to the Commuter Rail IT Environment, using this software as the foundation for the Digital Repository. Next, MBCR will identify the digital repository data sources, which include documents and configuration items. Once the resources are identified, we will begin to develop procedures, workflows, and templates to manage the documents and configuration items ensuring current information, as required by the Operating Agreement Service Level Agreements (SLAs). Once the software is in place, MBCR will install Team Foundation Server to support management of the application software components. Next, when feasible, we will implement Business Connectivity Services (BCS) to automate the maintenance of configuration items. The last action item for this initiative is to train MBTA and MBCR users to maximize usage of the information available in the Digital Repository.

2. Operator Service Center Plan

The Operator Service Center (OSC) will centrally manage and or document all incident communications within the Operator Commuter Rail Environment. Detailed information on hardware and software solutions, integration and operational management are described in MBCR's

RFP response section 9.A.12-Operating an IT Service Center and Responding to, and Repairing Reported Problems.

Approach

The first step toward establishing our Operator Service Center is to appoint an Operator Service Center Supervisor who will be responsible for managing all activity and systems contained within the Center, as well as for the development of OSC procedures. Next, MBCR will engage with Corporate IT Solution for outsourced Level 1-2 IT support, initial Issue Tracking Portal (ITP) configuration, iPBX/ IVR configuration, call recording, and centralized 800 number setups. After the initial setup, we will dedicate internal resources to develop ITP integrations, test the workflow, and train the OSC staff on ITP and OSC procedures. The final steps to establishing MBCR's OSC are to deploy OSC IP phones to the appropriate employees, and to clearly communicate the process of calling the new 800 number and detailing the users' proper use of the OSC.

3. Co-Location Center

MBCR will partner with Corporate IT Solutions to implement primary and failover collocated data centers. This effort will improve our disaster recovery readiness and SSAE16 compliance. For additional information please reference MBCR's Proposal Section 9.A.3-Sustaining and/or Transitioning Existing IT Environment during Mobilization.

Approach

Working in collaboration with Corporate IT Solutions, we will procure additional required assets, and install / configure connectivity to each collocated site (This includes possible use of MBTA fiber from Cobble Hill to the Markley building). The next steps in our implementation process are to extend networking capabilities to required sites, complete physical hardware relocation, and perform failover testing for both hardware and networking.

4. Issue Tracking Portal

MBCR will partner with Corporate IT Solutions to host and initially configure the ConnectWise application, which will be used as the Issue Tracking Portal (ITP). Please reference MBCR's Proposal Section 9.A.5-Tracking and Escalating Issues and MBTA Issue Tracking Portal for a detailed description.

Approach

Working alongside Corporate IT Solutions' experts, we will first customize ConnectWise for workflow and escalation procedures, departmental boards, severity levels, automated notifications, and custom reporting. Next, we will develop custom interfaces between ConnectWise and critical 3rd party applications, such as Trapeze EAM and Parature. Once this is complete, we will initiate Kaseya asset management data capture and integration with ITP. Lastly, once the ITP is established, we will dedicate internal resources to train staff responsible for entering tickets into the ITP.

5. Enterprise Asset Management

Trapeze Enterprise Asset Management (EAM) is used by MBCR's Engineering and Mechanical Departments to manage rolling-stock and infrastructure, and to ensure equipment reliability, regulatory compliance, and cost containment.

Approach

In order for MBCR to rely on this software to support the activities of our Engineering and Mechanical departments, we will conduct updates to the modules that each department will use. MBCR's IT Department has performed due diligence, and has developed a module update implementation plan, which when complete, will equip our Engineering and Mechanical Departments with the tools necessary

to ensure that all MBCR and MBTA assets are being properly and proactively managed. For detailed information on the Trapeze EAM implementation plan for both MBCR's Engineering and Mechanical departments, please see Supplemental Appendix 6: Information Technology.

6. Information Security Program

MBCR will engage iCorp Technologies to construct a full Information Security Program to comply with the Operating Agreement's Schedule 3.17 requirements. Please refer to MBCR's Proposal Section 9.A.20- Information Technology Security for a complete description.

Approach

Working closely with iCorp Technologies, we will begin the development of our Information Security Program by conducting a thorough risk assessment. This will be followed by a detailed mapping of all compliance controls to the MBCR/MBTA policies and standards. Next, iCorp Technologies will take the lead on creating remediation plans that address all deficiencies and implement governance tools. The completion of this step will initiate production of the Incident Response Plan, as well as the development of monitoring and continuous improvement methodologies.

7. Infrastructure Disaster Recovery, Business Continuity and Continuation of Operations Plan

With the introduction of a co-location facility for production and disaster recovery sites, MBCR's infrastructure exposure is significantly reduced. Our existing Disaster Recovery and Business Continuity plans will be assessed and revised accordingly. MBCR will engage with a partner to facilitate the initial analysis and solution redesign.

Approach

MBCR will begin the developmental process by conducting initial analysis, which entails: Business Impact Analysis, Threat and Risk Analysis, Impact scenarios, and identification of recovery requirements. After the initial analysis is complete, we will use our data to perform solution redesign and complete the plan's implementation. Once complete with the redesign and implementation effort, we will conduct testing to ensure organizational acceptance. The last action of the implementation plan entails conducting bi-annual maintenance and testing, which will include: Plan information verification, technical assessment, and testing/verification of recovery procedures.

8. Quality Control Program / Quality Control Plan

MBCR will enhance our quality control plan with the introduction of a dedicated resource, IT Supervisor of Quality Assurance and IT Compliance, who will manage all aspects of the quality control program. For more detailed information please reference MBCR's Proposal Section 9.A.15- Implementing a Quality Assurance Program.

Approach

The first step toward developing and implementing a revamped Quality Control Plan is to appoint an IT Supervisor of Quality Assurance and IT Compliance. Once in place, this supervisor will work to develop a Quality Control Plan that includes the following:

- Incorporation of industry standards (ITIL, ISO, PMI)
- Change and configuration management oversight responsibilities
- Hardware / Software lifecycle service reviews
- Process governance and evaluation methods

Once the Plan has been developed, MBCR will focus on plan implementation throughout departmental processes and activities.

9. Information Technology Asset and Lifecycle Management Plan

MBCR will utilize the Kaseya's Asset Management software package to track, analyze and report on all IT asset information. Please refer to MBCR's Proposal Section 9.A.14-Implementing IT Asset Lifecycle Plans for more details.

Approach:

MBCR's IT Department will develop the Lifecycle Management Plan and associated procedures for managing IT assets. Next we will configure the Kaseya software, setting thresholds and alerts. After the Kaseya software has been successfully installed and configured, our focus will switch to performing the necessary data population. This will entail: installing agent on PCs, laptops, and servers; inputting all licensing and support contract information; and inputting all non-discoverable assets. Once this step is complete, we will assign State of Good Repair ratings to each asset, and conduct baseline analyses. Lastly, if necessary, our IT Department will work with the MBTA to customize reporting to meet the Operating Agreement requirements.

Project Planning and Implementation Initiatives

MBCR will meet with the MBTA to develop a project plan that addresses each IT-related requirement to ensure MBCR's complete compliance with the MBTA's Operating Agreement. Topics to be addressed in the project plan include, but are not limited to the following:

- All IT Operating Agreement requirements
  - All required plans
  - All required changes to the Commuter Rail IT Environment
- MBTA IT Security Policies
- MBTA Asset Tracking requirements
- MBTA Metric Monitoring requirements for Service Level Agreements

This project planning meeting will be conducted during the first 60 days of the Mobilization Period to enable the MBTA and MBCR to identify any required procurements and installations prior to the Commencement Date.

12.A.10 IT Initiatives in Support of Other Departments During Mobilization

Throughout the Mobilization Period, MBCR's IT Department will support other MBCR Departments, while simultaneously addressing its own Operating Agreement requirements. In that vein, the MBCR IT Department will also take on three major additional tasks, some that will be completed during Mobilization, and others that will continue to be addressed during the new Contract Period. MBCR's IT Department will support the following MBCR initiatives during the Mobilization Period:

Upgrades to Ortec Software

During Mobilization and beyond, MBCR has plans to update Ortec modules in order to enhance system functionality and provide our Transportation staff with improved tools to assist with Run Book modeling, which will help optimize the work-life balance of our workforce. The MBCR IT Department will support the Ortec team as they work to install upgrades and integrate with the Commuter Rail IT Environment. For more information on the Ortec upgrades, please see MBCR's Proposal Section 6.A.2- Train Operations, Train Crew Management, Crew and Equipment Scheduling.

Expansion of Conductor Companion Application Usage

MBCR's Customer Service Department will expand the Conductor Companion Pilot Program to an additional 233 conductors during Mobilization, which will require support and guidance from the IT Department. For detailed information on the Conductor Companion Application, please see MBCR's Proposal Section 7.A.1- Conductor Companion of the Customer Service Plan.

Development and Launch of Lost and Found web-based tool

By commencement of the next contract period, MBCR's Customer Service Department will launch a new web-based tool for customers to report lost items, and begin the process of recovering their possessions. The IT Department will provide direct support to bring this new tool to fruition. For more information on this new tool, please see MBCR's Proposal Section 7.A.2- Lost & Found Services of the Customer Service Plan.

Requirement Analysis for Learning Management System (LMS)

MBCR's IT and HR Departments have been actively pursuing the implementation of a Learning Management System. During the Mobilization Period, we will complete the requirements analysis necessary to inform our selection of an LMS contractor, in advance of making a recommendation to the MBTA for implementation during the first contract year.

12.A.11 Mobilization Schedule

MBCR's Mobilization Schedule is displayed in the Gantt charts at the end of this section (Pg. 13-20).

12.B Mobilization Price Form

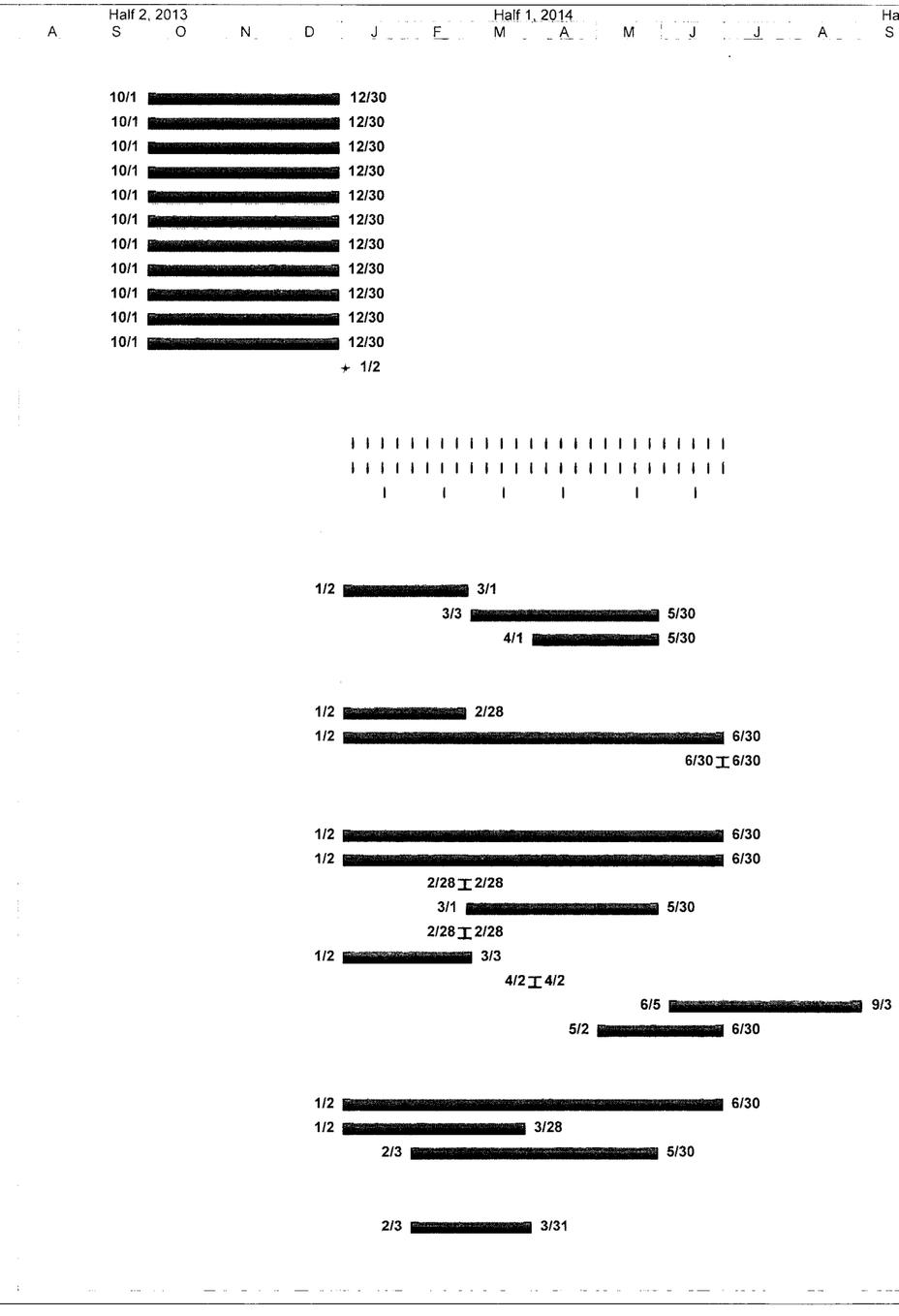
MBCR's Mobilization Price Forms are contained in Attachment to this Section 12.

12.C Best Practices Support

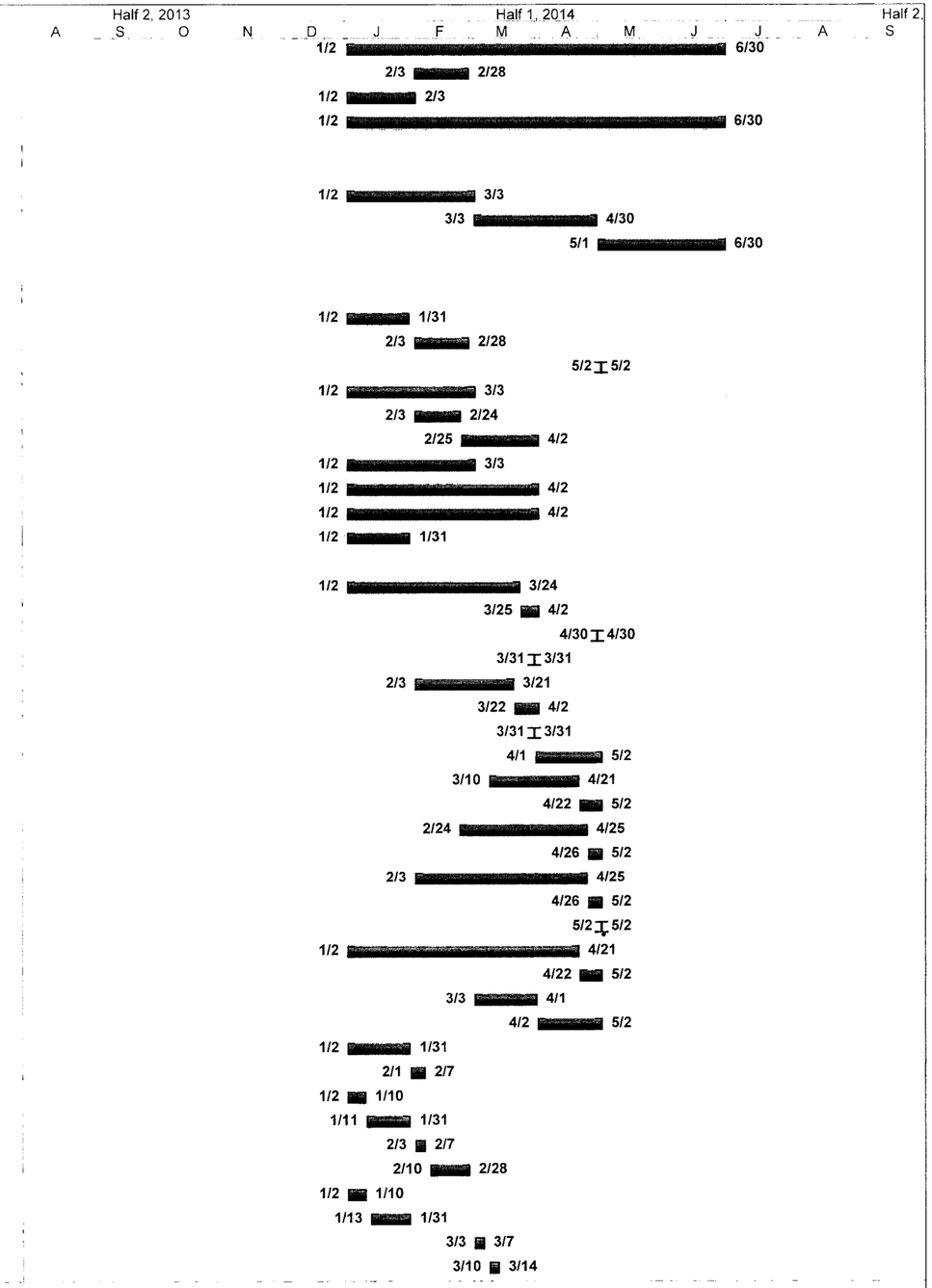
For the Mobilization Period our goal is simple, introduce improvements that advance operational efficiency and customer satisfaction, while delivering our daily service. The following table details some of the tools we will use and rely on to achieve this goal.

Initiative	Section	Category	Validating Information
Experienced Mobilization Management Team	12.A.1	Best Practice; Cost Efficient.	MBCR's experienced, Boston-based management team will leverage their unique knowledge and familiarity with the Commuter Rail Operations to ensure a seamless, low-cost, mobilization effort. For more information on MBCR Management see Section 8: Management. For more information on the Mobilization Management Team, see pg. 12-2.
Introducing Operational Improvements that benefit MBTA Customers	12.A.5	Innovation	Each MBCR department has dedicated time and resources toward developing a series of cost-efficient, highly effective improvement initiatives to be implemented in the next contract period. Those listed on pg. 12-6 represent the improvements that will be implemented on or before Commencement Date of the next contract period.
Adherence to Project Management Best Practices as determined by the Project Management Institute (PMI)	12.A.9	Best Practice; Cost Efficient.	For all IT-related initiatives to be carried out during the Mobilization Period, MBCR is committed to adhering to the established best practices for project management as defined in the PMI's Project Management Book of Knowledge (PMBOK), fifth edition or higher.

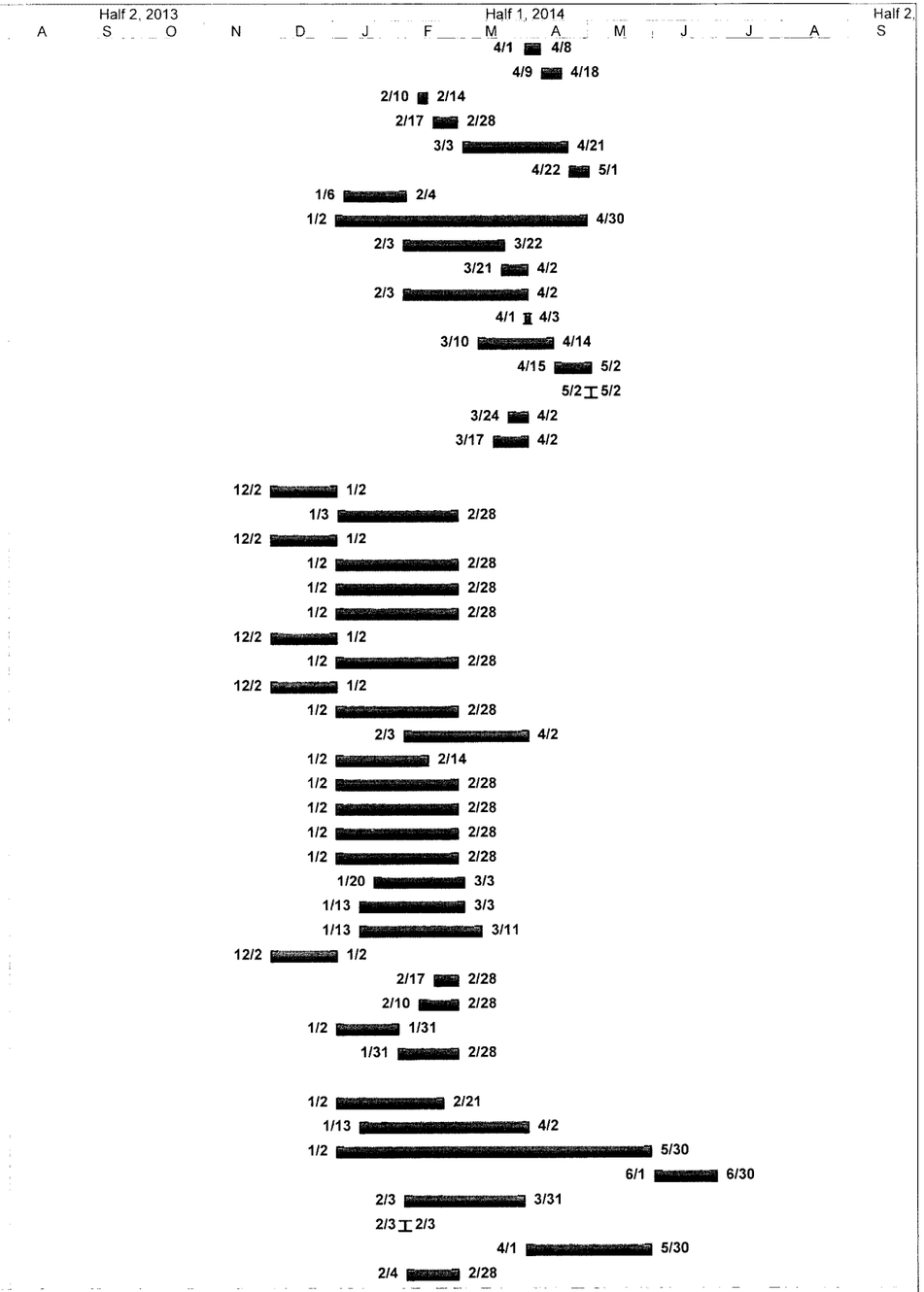
ID	Task Name	Start	Finish
1	**1: Prior to Notice to Proceed**	**Tue 10/1/13**	**Mon 12/30/13**
2	**1.1: Development of MBCR Mobilization Plan**	**Tue 10/1/13**	**Mon 12/30/13**
3	Develop and Submit Mobilization Plan (ODRL 3.12-001)	Tue 10/1/13	Mon 12/30/13
4	Develop and submit Mobilization Organization (ODRL 3.12-002)	Tue 10/1/13	Mon 12/30/13
5	Develop and submit Third Party Mobilization Services List (ODRL 3.12-003)	Tue 10/1/13	Mon 12/30/13
6	Develop and submit MBCR Transition Services List (ODRL 3.12-004)	Tue 10/1/13	Mon 12/30/13
7	Develop and submit FRA/Regulatory Agency Deliverable Spreadsheet (ODRL 3.12-005)	Tue 10/1/13	Mon 12/30/13
8	Develop and submit Mobilization Milestone Schedule (ODRL 3.12-006)	Tue 10/1/13	Mon 12/30/13
9	Develop and submit Mobilization Plan Underlying Assumptions (ODRL 3.12-007)	Tue 10/1/13	Mon 12/30/13
10	Develop and submit Mobilization Overlaps & Mitigation (ODRL 3.12-008)	Tue 10/1/13	Mon 12/30/13
11	Develop and submit Mobilization Status Meeting Schedule (ODRL 3.12-009)	Tue 10/1/13	Mon 12/30/13
12	Develop and submit Document & Template Spreadsheet (ODRL 3.12-010)	Tue 10/1/13	Mon 12/30/13
13	Develop and submit Safety Sensitive Subcontractor Position (ODRL 3.12-011)	Tue 10/1/13	Mon 12/30/13
14	**Issuance of Notice to Proceed**	**Thu 1/2/14**	**Thu 1/2/14**
15	**2: Post Issuance of Notice to Proceed**	**Thu 1/2/14**	**Mon 6/30/14**
16	**2.1: Mobilization Activity Management: Coordination Meetings**	**Thu 1/2/14**	**Mon 6/30/14**
17	2.1.2: Weekly Meeting with the MBTA	Mon 1/6/14	Mon 6/30/14
44	2.1.3: Weekly MBCR Mobilization Team Meetings	Mon 1/6/14	Mon 6/30/14
71	2.1.4: Monthly MBCR Board Meetings to Review Mobilization Activity	Tue 1/21/14	Tue 6/17/14
78	**3: Departmental Activity During Mobilization Period (Non ODRL related)**	**Thu 1/2/14**	**Mon 6/30/14**
79	**3.1: Transportation**	**Thu 1/2/14**	**Fri 5/30/14**
80	**3.1.1: Improvement Initiatives**	**Thu 1/2/14**	**Fri 5/30/14**
81	Continue roll out of Conductor Companion Mobile Application	Thu 1/2/14	Sat 3/1/14
82	Implement Executive KPI Dashboard	Mon 3/3/14	Fri 5/30/14
83	Conduct updates to Ortec System	Tue 4/1/14	Fri 5/30/14
84	**3.2: Engineering**	**Thu 1/2/14**	**Mon 6/30/14**
85	**3.2.1: Improvement Initiatives**	**Thu 1/2/14**	**Mon 6/30/14**
86	Create Engineering Planning Team	Thu 1/2/14	Fri 2/28/14
87	Implement Work Scheduling Software (Trapeze)	Thu 1/2/14	Mon 6/30/14
88	Establish MBCR Bar Coding System to enhance inventory management	Mon 6/30/14	Mon 6/30/14
89	**3.3: Mechanical**	**Thu 1/2/14**	**Mon 6/30/14**
90	**3.3.1: Improvement Initiatives**	**Thu 1/2/14**	**Mon 6/30/14**
91	Complete implementation plan for World Class Operations & Maintenance (WCO&M)	Thu 1/2/14	Mon 6/30/14
92	Implement Lifecycle Maintenance	Thu 1/2/14	Mon 6/30/14
93	Purchase new Mobile Fueling Truck	Fri 2/28/14	Fri 2/28/14
94	Introduce Alternating Current Field Measurement (ACFM)	Sat 3/1/14	Fri 5/30/14
95	Complete Reorganization of Departmental Management	Fri 2/28/14	Fri 2/28/14
96	Initiate Restructuring of Technical Staff	Thu 1/2/14	Mon 3/3/14
97	Implement Fleet Management Team	Wed 4/2/14	Wed 4/2/14
98	Establish Maintenance Operations Control Center	Thu 6/5/14	Wed 9/3/14
99	Complete Kitting Initiative for Mechanical staff	Fri 5/2/14	Mon 6/30/14
100	**3.4: Customer Service**	**Thu 1/2/14**	**Mon 6/30/14**
101	**3.4.1: Improvement Initiatives**	**Thu 1/2/14**	**Mon 6/30/14**
102	Finalize the design and process of "Genius" model in collaboration with MBTA	Thu 1/2/14	Mon 6/30/14
103	Development and launch of MBCR Lost & Found web-based tool	Thu 1/2/14	Fri 3/28/14
104	Design and install updated station signage	Mon 2/3/14	Fri 5/30/14
105	**3.5 DBE**	**Thu 1/2/14**	**Mon 3/31/14**
106	**3.5.1 Improvement Initiatives**	**Thu 1/2/14**	**Mon 3/31/14**
107	Conduct Disadvantaged Business Enterprise (DBE) Outreach event	Mon 2/3/14	Mon 3/31/14
108	**3.6: EEO and HR**	**Thu 1/2/14**	**Mon 6/30/14**
109	**3.6.1: Improvement Initiatives**	**Thu 1/2/14**	**Mon 6/30/14**



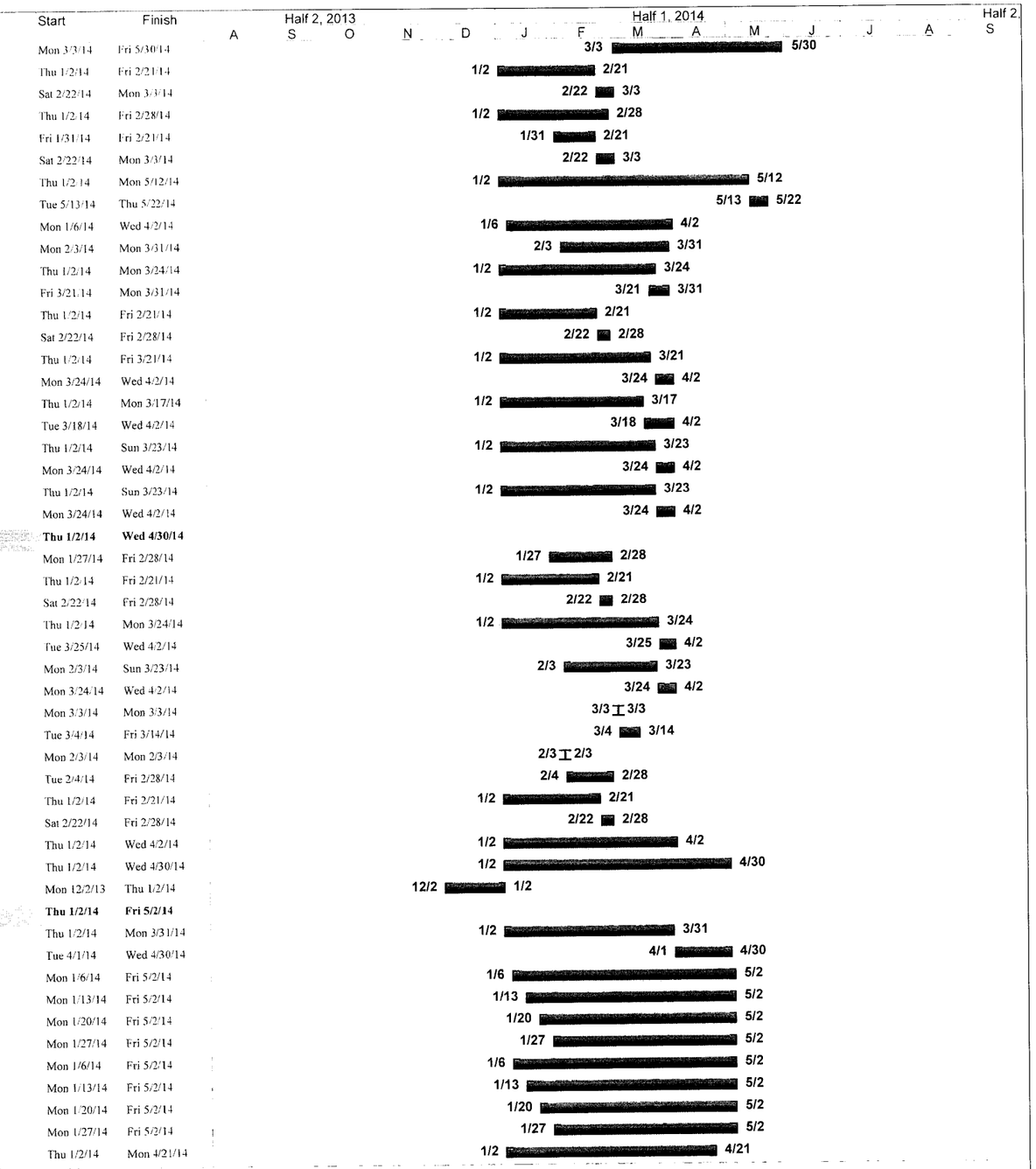
ID	Task Name	Start	Finish
110	Installing and Integrating the Learning Management System (Success Factors)	Thu 1/2/14	Mon 6/30/14
111	Developing a schedule for employee meetings with the General Manager	Mon 2/3/14	Fri 2/28/14
112	Development of updated MBCR Employee Handbook	Thu 1/2/14	Mon 2/3/14
113	Development of new company-wide "Mentoring Achievement Program"	Thu 1/2/14	Mon 6/30/14
114	**3.7: Training**	**Thu 1/2/14**	**Mon 6/30/14**
115	**3.7.1: Improvement Initiatives**	**Thu 1/2/14**	**Mon 6/30/14**
116	Conduct NIMS Training & Certification for General Manager and Operation Managers	Thu 1/2/14	Mon 3/3/14
117	Conduct NIMS Training for MBCR Labor Employees	Mon 3/3/14	Wed 4/30/14
118	Conduct NIMS Training for Subcontractor Employees	Thu 5/1/14	Mon 6/30/14
119	**4: Required Operator Deliverables (based off of ODRL) during Mobilization**	**Thu 1/2/14**	**Mon 6/30/14**
120	**4.1: Transportation**	**Thu 1/2/14**	**Fri 5/2/14**
121	Update and submit draft Transportation Service Plan for MBTA approval - (ODRL 3.1-001)	Thu 1/2/14	Fri 1/31/14
122	Receive and address any edits the MBTA provides, Finalize the Transportation Service Plan	Mon 2/3/14	Fri 2/28/14
123	Update and Submit Fare Collection Procedures (ODRL 3.1-007)	Fri 5/2/14	Fri 5/2/14
124	Update and Submit Operator Transportation Dept. Org Chart (ODRL 3.1-011)	Thu 1/2/14	Mon 3/3/14
125	Update and submit draft Train Staffing Plan for MBTA Approval (ODRL 3.1-012)	Mon 2/3/14	Mon 2/24/14
126	Receive and address any edits theMBTA provides; finalize the Train Staffing Plan	Tue 2/25/14	Wed 4/2/14
127	Develop Draft Policy and Procedure for Periodic Update (ODRL 3.1-021)	Thu 1/2/14	Mon 3/3/14
128	Draft Employee Timetable, Operating Rule Book and Train Dispatcher's Manual (ODRL 3.1-022)	Thu 1/2/14	Wed 4/2/14
129	Develop and submit spreadsheet of rule books/manual (ODRL 3.1-023)	Thu 1/2/14	Wed 4/2/14
130	Update and submit Timetable Schedule Pages for publication (ODRL 3.1-024)	Thu 1/2/14	Fri 1/31/14
131	**4.2: Engineering**	**Thu 1/2/14**	**Fri 5/2/14**
132	Update and submit draft Engineering Services Plan for MBTA Approval (ODRL 3.2-001)	Thu 1/2/14	Mon 3/24/14
133	Receive and address any edits the MBTA provides; finalize the Engineering Services Plan	Tue 3/25/14	Wed 4/2/14
134	Update and submit of Temporary Speed Restriction Removal Schedule (ODRL 3.2-018)	Wed 4/30/14	Wed 4/30/14
135	Update and submit of Station Inspection Form (ODRL 3.2-024)	Mon 3/31/14	Mon 3/31/14
136	Update and submit Preliminary Support Property & Facilities Maintenance Plan (ODRL 3.2-026)	Mon 2/3/14	Fri 3/21/14
137	Receive and address any edits the MBTA provides; finalize the Support Property & Facilities Maintenance Plan	Sat 3/22/14	Wed 4/2/14
138	Update and submit Facility Inspection Form (ODRL 3.2-028)	Mon 3/31/14	Mon 3/31/14
139	Develop and Submit Rolling Stock Support Equipment Condition Assessment (ODRL 3.2- 029)	Tue 4/1/14	Fri 5/2/14
140	Develop and submit draft Preliminary Elevator/Escalator Inspection & Maintenance Program (ODRL-3.2. 037)	Mon 3/10/14	Mon 4/21/14
141	Receive and address edits MBTA provides; finalize the Elevator/Escalator Inspection & Maintenance Program	Tue 4/22/14	Fri 5/2/14
142	Update and submit draft Prelim. Station, Building and Facility Maint. Program for approval (ODRL 3.2-039)	Mon 2/24/14	Fri 4/25/14
143	Receive any edits the MBTA provides, finalize the Station, Building, and Facility Maintenance Program	Sat 4/26/14	Fri 5/2/14
144	Update and submit draft Preliminary Bridge Maintenance Plan for MBTA approval (ODRL 3.2-050)	Mon 2/3/14	Fri 4/25/14
145	Receive and address any edits the MBTA provides; finalize the Bridge Maintenance Plan	Sat 4/26/14	Fri 5/2/14
146	Update and submit draft Preliminary Drawbridge Maintenance Plan for MBTA approval (ODRL 3.2- 052)	Fri 5/2/14	Fri 5/2/14
147	Develop and submit Preliminary Drawbridge Operation Manual (ODRL 3.2-054)	Thu 1/2/14	Mon 4/21/14
148	Receive and address any edits the MBTA provides; finalize the Drawbridge Operation Manual	Tue 4/22/14	Fri 5/2/14
149	Develop and submit Preliminary Timber Bridge Deck Replacement Plan (ODRL 3.2-057)	Mon 3/3/14	Tue 4/1/14
150	Receive and address any edits the MBTA provides; finalize the Timber Bridge Deck Replacement Plan	Wed 4/2/14	Fri 5/2/14
151	Develop and submit Preliminary Tunnel Operation and Maintenance Manual (ODRL 3.2-059)	Thu 1/2/14	Fri 1/31/14
152	Receive and address any edits the MBTA provides; finalize the Tunnel Operation and Maintenance Plan	Sat 2/1/14	Fri 2/7/14
153	Update and submit Preliminary Culvert Replacement Plan (ODRL 3.2-061)	Thu 1/2/14	Fri 1/10/14
154	Receive and affress any edits the MBTA provides; finalize the Culvert Replacement Plan	Sat 1/11/14	Fri 1/31/14
155	Update and submit Preliminary Signal Failure Reduction Program (ODRL 3.2-066)	Mon 2/3/14	Fri 2/7/14
156	Receive and address any edits the MBTA provides; finalize the Signal Failure Reduction Program	Mon 2/10/14	Fri 2/28/14
157	Update and submit Preliminary Grade Crossing Event Recorder Program (ODRL 3.2-074)	Thu 1/2/14	Fri 1/10/14
158	Receive and address any edits the MBTA provides; finalize the Grade Crossing Event Recorder Program	Mon 1/13/14	Fri 1/31/14
159	Update and submit Preliminary Interlocking Event Recorder Program (ODRL 3.2-078)	Mon 3/3/14	Fri 3/7/14
160	Receive and address any edits the MBTA provides; finalize the Interlocking Event Recorder Program	Mon 3/10/14	Fri 3/14/14



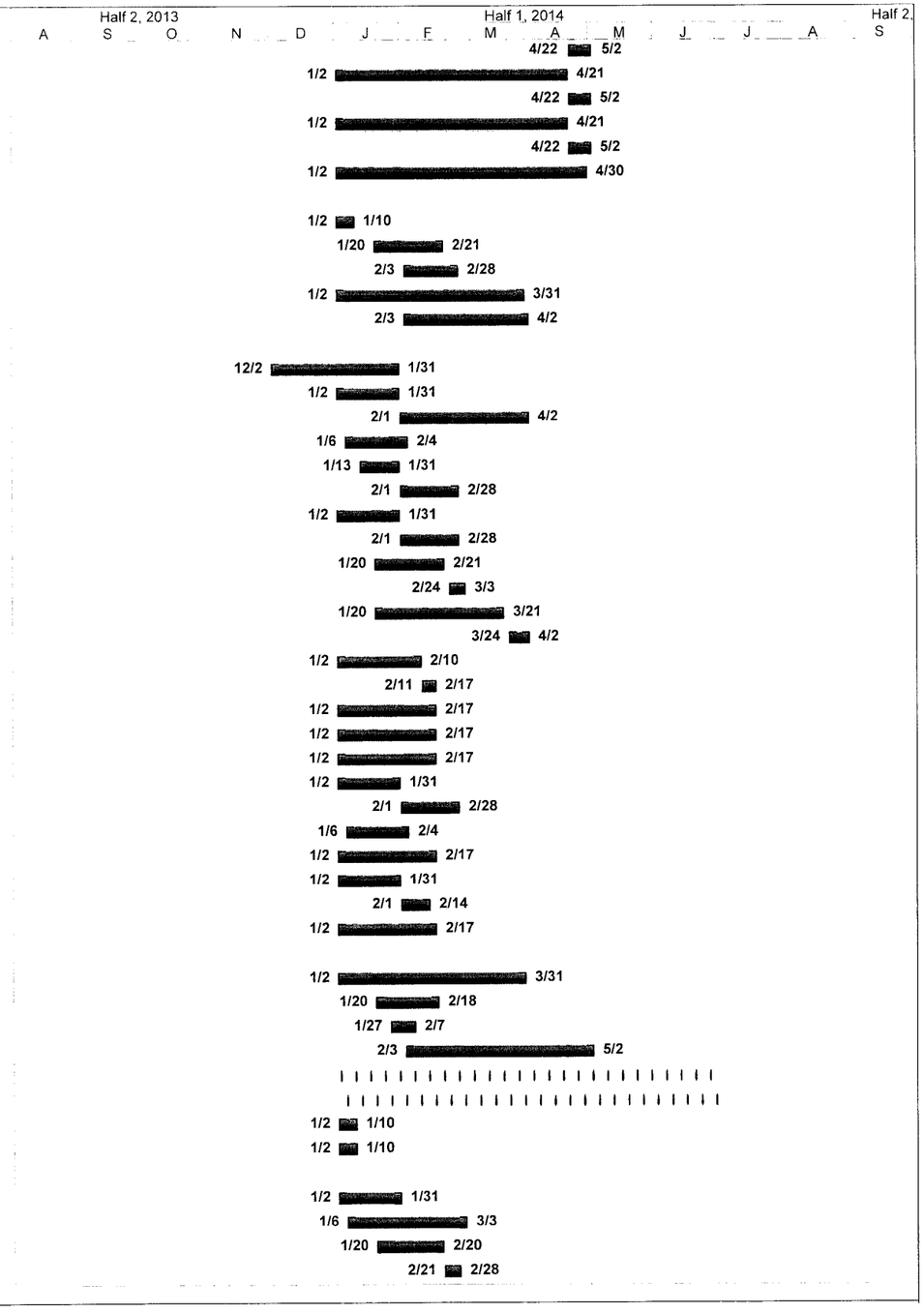
ID	Task Name	Start	Finish
161	Update and submit Preliminary Switch Machine Replacement Plan (ODRL 3.2-080)	Tue 4/1/14	Tue 4/8/14
162	Receive and address any edits the MBTA provides; finalize the Switch Machine Replacement Plan	Wed 4/9/14	Fri 4/18/14
163	Update and submit Preliminary Pole Line Retirement and Replacement Program (ODRL 3.2-082)	Mon 2/10/14	Fri 2/14/14
164	Receive and address edits the MBTA provides; finalize the Pole Line Retirement and Replacement Program	Mon 2/17/14	Fri 2/28/14
165	Update and submit Preliminary Pole Replacement Program (ODRL 3.2-084)	Mon 3/3/14	Mon 4/21/14
166	Receive and address any edits the MBTA provides; finalize the Pole Replacement Program	Tue 4/22/14	Thu 5/1/14
167	Update and submit Lock Out / Tag Out Procedure (ODRL 3.2-085)	Mon 1/6/14	Tue 2/4/14
168	Develop and submit Electrical and Lighting Equip. Field Inspection & Asset Inventory Update (ODRL 3.2-086)	Thu 1/2/14	Wed 4/30/14
169	Develop and submit Electrical Testing and Maintenance Plan (ODRL 3.2-087)	Mon 2/3/14	Sat 3/22/14
170	Receive and address any edits the MBTA provides; finalize the Electrical Testing and Maintenance Plan	Fri 3/21/14	Wed 4/2/14
171	Develop Electrical Maintenance & Testing Report (ODRL 3.2-091)	Mon 2/3/14	Wed 4/2/14
172	Update Electric Service Database (ODRL 3.2-096)	Tue 4/1/14	Thu 4/3/14
173	Develop and submit Energy Consumption Strategy (ODRL 3.2- 097)	Mon 3/10/14	Mon 4/14/14
174	Receive and address edits the MBTA provides; finalize the Energy Consumption Strategy	Tue 4/15/14	Fri 5/2/14
175	Update and submit Non-Revenue Vehicle & Work Equipment Inspection Form (ODRL 3.2-099)	Fri 5/2/14	Fri 5/2/14
176	Develop and submit Annual Fuel Usage Audit Report Form (ODRL-3.2-101)	Mon 3/24/14	Wed 4/2/14
177	Develop and submit Fire Protection System/ Call Box Inventory (ODRL 3.2-109)	Mon 3/17/14	Wed 4/2/14
178	**4.3: Mechanical**	**Thu 1/2/14**	**Wed 4/2/14**
179	Develop and submit Equipment List (ELIST) – Operator Proposed (ODRL-3.3-001)	Mon 12/2/13	Thu 1/2/14
180	Submit Equipment List (ELIST) for the MBTA approval (ODRL-3.3-002)	Fri 1/3/14	Fri 2/28/14
181	Develop and submit Maintenance Allocation Chart (MAC)- Operator Proposed (ODRL-3.3-003)	Mon 12/2/13	Thu 1/2/14
182	Submit Maintenance Allocation Chart (MAC)- Operator Proposed (ODRL-3.3-004)	Thu 1/2/14	Fri 2/28/14
183	Develop and submit Life Cycle Maintenance (LCM) Program – Operator Proposed (ODRL-3.3-005)	Thu 1/2/14	Fri 2/28/14
184	Develop and submit Life Cycle Maintenance (LCM) Program for MBTA approval (ODRL-3.3-006)	Thu 1/2/14	Fri 2/28/14
185	Update and submit Proposed Preventitive Maintenance, Inspection and Cleaning Plan (ODRL-3.3-007)	Mon 12/2/13	Thu 1/2/14
186	Update and submit Final Preventive Maintenance, Inspection and Cleaning Plan for approval (ODRL-3.3-008)	Thu 1/2/14	Fri 2/28/14
187	Develop and submit Cleaning Standards – Operator Proposed (ODRL-3.3-009)	Mon 12/2/13	Thu 1/2/14
188	Submit Final Cleaning Standards for MBTA approval (ODRL-3.3-010)	Thu 1/2/14	Fri 2/28/14
189	Update and submit Maintenance Interval Forms (ODRL-3.3-011)	Mon 2/3/14	Wed 4/2/14
190	Update and submit Fleet Maintenance Plan for MBTA approval (ODRL-3.3-012)	Thu 1/2/14	Fri 2/14/14
191	Develop and submit Weekly Maintenance Production Plan- Operator Proposed (ODRL-3.3-014)	Thu 1/2/14	Fri 2/28/14
192	Develop and submit Weekly Maintenance Production Report (ODRL-3.3-016)	Thu 1/2/14	Fri 2/28/14
193	Develop and submit Maintenance Management System Plan (ODRL-3.3-018)	Thu 1/2/14	Fri 2/28/14
194	Develop and submit Maintenance Standards Manual (MSM) (ODRL-3.3-019)	Thu 1/2/14	Fri 2/28/14
195	Update and submit Calibration Procedure Management Plan (ODRL-3.3-020)	Mon 1/20/14	Mon 3/3/14
196	Develop and submit Rail vehicle non-revenue fleet- preventive maintenance program (ODRL-3.3-021)	Mon 1/13/14	Mon 3/3/14
197	Develop and submit Mobile Wreck Cranes- comprehensive preventive maintenance program (ODRL-3.3-022)	Mon 1/13/14	Tue 3/11/14
198	Develop and submit Maintenance Management System Procurement Specification (ODRL-3.3-023)	Mon 12/2/13	Thu 1/2/14
199	Update and submit FRA Defect Report- Rolling Stock (ODRL-3.3-024)	Mon 2/17/14	Fri 2/28/14
200	Develop and submit FRA Compliance Management Plan (ODRL-3.3-025)	Mon 2/10/14	Fri 2/28/14
201	Update and submit Maintenance Operation and FleetPerformance Report Format (ODRL-3.3-026)	Thu 1/2/14	Fri 1/31/14
202	Develop and submit Maintenance cost per vehicle, per year (ODRL-3.3-028)	Fri 1/31/14	Fri 2/28/14
203	**4.4: Materials Management and Procurement**	**Thu 1/2/14**	**Mon 6/30/14**
204	Develop and submit Materials Management Plan (ODRL 3.4-001)	Thu 1/2/14	Fri 2/21/14
205	Develop and submit Critical Material List (ODRL 3.4-002)	Mon 1/13/14	Wed 4/2/14
206	Update and submit Development of New Fleets Parts and Material Plan (ODRL 3.4-004)	Thu 1/2/14	Fri 5/30/14
207	Receive and address edits the MBTA provides; finalize the New Fleet Parts and Material Plan	Sun 6/1/14	Mon 6/30/14
208	Update and submit New Fleet Parts Lists (ODRL 3.4-005)	Mon 2/3/14	Mon 3/31/14
209	Update Unique Parts/ Safety Stock Lists (ODRL 3.4-06)	Mon 2/3/14	Mon 2/3/14
210	Update and submit Repair and Return List (ODRL 3.4- 07)	Tue 4/1/14	Fri 5/30/14
211	Update and submit Scrap and Obsolete Material Handling (ODRL 3.4-010)	Tue 2/4/14	Fri 2/28/14



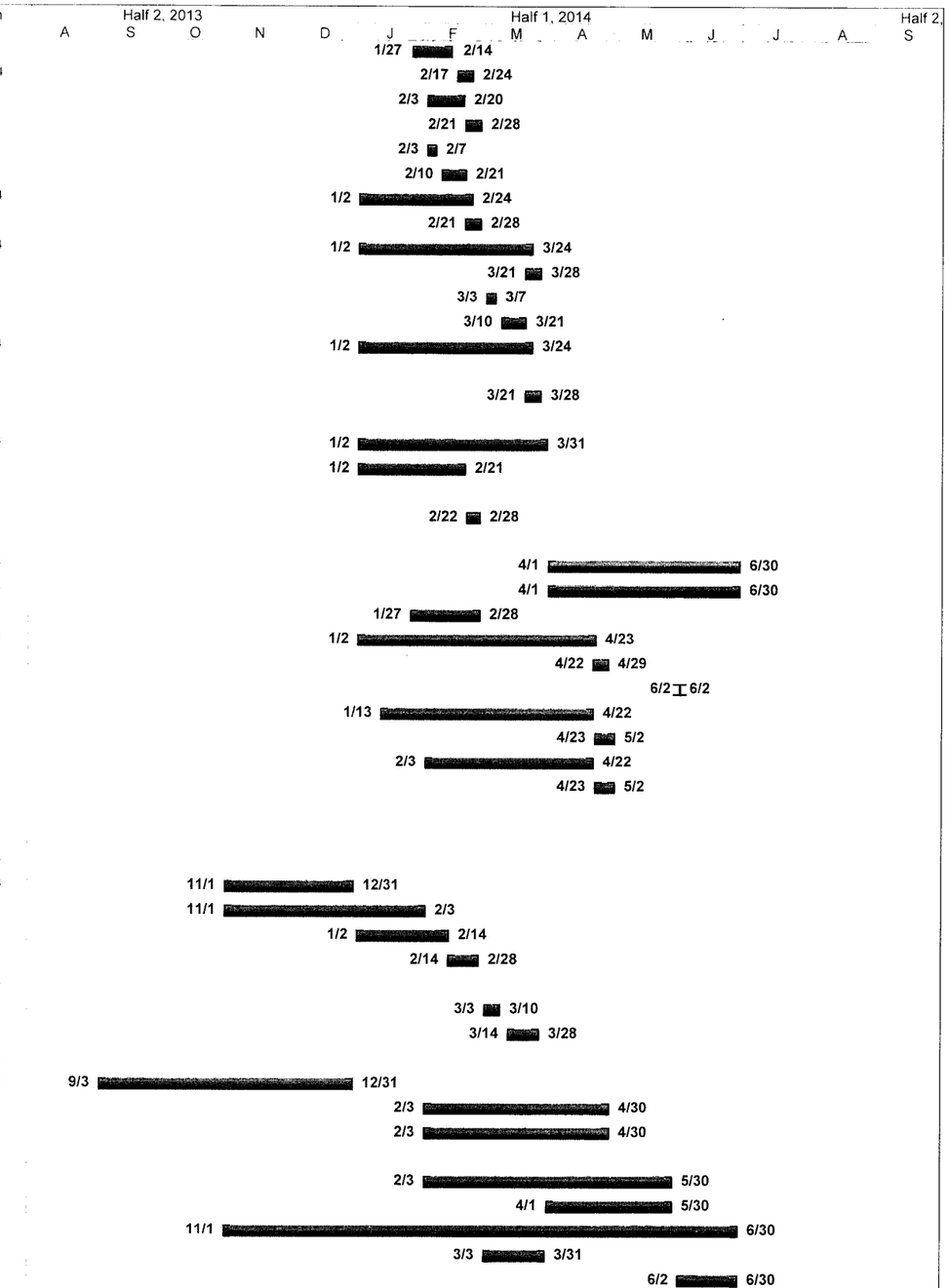
ID	Task Name	Start	Finish
212	Update and submit Obsolete,Surplus and Scrap Material Sales Escrow Account Report (ODRL 3.4-011)	Mon 3/3/14	Fri 5/30/14
213	Update and submit Inventory Maintenance Plan (ODRL 3.4-013)	Thu 1/2/14	Fri 2/21/14
214	Receive and address any edits the MBTA provides; finalize the Inventory Maintenance Plan	Sat 2/22/14	Mon 3/3/14
215	Update and submit None on Hand Material Action List (ODRL 3.4-014)	Thu 1/2/14	Fri 2/28/14
216	Update and submit None on Hand Material Meeting Plan (ODRL 3.4-015)	Fri 1/31/14	Fri 2/21/14
217	Receive and address any edits the MBTA provides; finalize the None on Hand Meeting Plan	Sat 2/22/14	Mon 3/3/14
218	Develop Materials MIS Plan and submit for MBTA approval (ODRL-3.4-018)	Thu 1/2/14	Mon 5/12/14
219	Receive and address any edits the MBTA provides; finalize the Materials MIS Plan	Tue 5/13/14	Thu 5/22/14
220	Develop and submit Materials MIS Operational and Current (ODRL-3.4-019)	Mon 1/6/14	Wed 4/2/14
221	Develop and submit MBTA Materials Management Data Upload (ODRL-3.4-020)	Mon 2/3/14	Mon 3/31/14
222	Develop Fuel Test Plan and submit for MBTA approval (ODRL-3.4-021)	Thu 1/2/14	Mon 3/24/14
223	Receive and address any edits the MBTA provides; finalize the Fuel Test Plan	Fri 3/21/14	Mon 3/31/14
224	Develop Fuel Accounting Plan and submit for MBTA approval (ODRL-3.4-022)	Thu 1/2/14	Fri 2/21/14
225	Receive and address any edits the MBTA provides; finalize the Fuel Accounting Plan	Sat 2/22/14	Fri 2/28/14
226	Update and submit Locomotive Idle Time Minimization Plan (ODRL 3.4-29)	Thu 1/2/14	Fri 3/21/14
227	Receive and address any edits the MBTA provides; finalize the Locomotive Idle Time Minimiztion Plan	Mon 3/24/14	Wed 4/2/14
228	Develop and submit Locomotive Idle Time Maintenance Plan (ODRL 3.4- 030)	Thu 1/2/14	Mon 3/17/14
229	Receive and address any edits the MBTA provides; finalize the Locomotive Idle Time Maintenance Plan	Tue 3/18/14	Wed 4/2/14
230	Update and submit Warranty Control & Administration Plan (ODRL-3.4-33)	Thu 1/2/14	Sun 3/23/14
231	Receive and address any edits the MBTA provides; finalize the Warranty Control & Admin. Plan	Mon 3/24/14	Wed 4/2/14
232	Update and submit Waste Recycling Tracking Plan (ORDL-3.4- 34)	Thu 1/2/14	Sun 3/23/14
233	Receive and address any edits the MBTA provides; finalize the Waste Recycling Tracking Plan	Mon 3/24/14	Wed 4/2/14
234	**4.5: Safety**	**Thu 1/2/14**	**Wed 4/30/14**
235	Update and submit Safety Incident Reporting and Review Process (ODRL-3.5-001)	Mon 1/27/14	Fri 2/28/14
236	Develop Emergency Action Process Improvement Plan and submit for MBTA approval (ODRL-3.5-002)	Thu 1/2/14	Fri 2/21/14
237	Receive and address edits the MBTA provides; finalize the Emergency Action Process Improvement Plan	Sat 2/22/14	Fri 2/28/14
238	Develop Operator Safety Compliance Plan and submit for MBTA approval (ODRL-3.5-003)	Thu 1/2/14	Mon 3/24/14
239	Receive and address any edits the MBTA provides; finalize the Operator Safety Compliance Plan	Tue 3/25/14	Wed 4/2/14
240	Develop Operator System Security Compliance Plan and submit for MBTA approval (ODRL-3.5-012)	Mon 2/3/14	Sun 3/23/14
241	Receive and address any edits the MBTA provides; finalize the Operator System Security Compliance Plan	Mon 3/24/14	Wed 4/2/14
242	Update Emergency Preparedness Plan and submit for MBTA approval (ODRL-3.5-015)	Mon 3/3/14	Mon 3/3/14
243	Receive and address any edits the MBTA provides; finalize the Emergency Preparedness Plan	Tue 3/4/14	Fri 3/14/14
244	Update Emergency Response Plan and submit for MBTA approval (ODRL-3.5-017)	Mon 2/3/14	Mon 2/3/14
245	Receive and address any edits the MBTA provides; finalize the Emergency Response Plan	Tue 2/4/14	Fri 2/28/14
246	Update Contingency Plan and submit for MBTA approval (ODRL-3.5-019)	Thu 1/2/14	Fri 2/21/14
247	Receive and address any edits the MBTA provides; finalize the Contingency Plan	Sat 2/22/14	Fri 2/28/14
248	Develop and submit Drug Free Workplace Policy (ODRL-3.5-022)	Thu 1/2/14	Wed 4/2/14
249	Update and submit Drug and Alcohol Test Guidelines (ODRL 3.5-027)	Thu 1/2/14	Wed 4/30/14
250	Update and submit Inventory of Safety Sensitive Positions (ODRL 3.5-029)	Mon 12/2/13	Thu 1/2/14
251	**4.6: Quality**	**Thu 1/2/14**	**Fri 5/2/14**
252	Develop and submit Quality Assurance Program Plan (ODRL-3.6-001)	Thu 1/2/14	Mon 3/31/14
253	Receive and address any edits the MBTA provides; finalize the Quality Assurance Plan	Tue 4/1/14	Wed 4/30/14
254	Develop and submit Quality Control Manual for Transportation Services (ODRL-3.6-002)	Mon 1/6/14	Fri 5/2/14
255	Develop and submit Quality Control Manual for Customer Service & Information (ODRL-3.6-003)	Mon 1/13/14	Fri 5/2/14
256	Develop and submit Quality Control Manual for Engineering Services (ODRL-3.6-004)	Mon 1/20/14	Fri 5/2/14
257	Develop and submit Quality Control Manual for Mechanical Services (ODRL-3.6-005)	Mon 1/27/14	Fri 5/2/14
258	Develop and submit Quality Control Manual for Materials Management (ODRL-3.6-006)	Mon 1/6/14	Fri 5/2/14
259	Develop and submit Calibration Standards, Processes, Procedures, and Documentation (ODRL-3.6-007)	Mon 1/13/14	Fri 5/2/14
260	Develop and submit Workmanship Standards (ODRL-3.6-008)	Mon 1/20/14	Fri 5/2/14
261	Develop and submit Commuter Rail Function, Processes & Procedures Master List (ODRL 3.6-009)	Mon 1/27/14	Fri 5/2/14
262	Develop and submit Configuration Management Plan (ODRL-3.6-010)	Thu 1/2/14	Mon 4/21/14



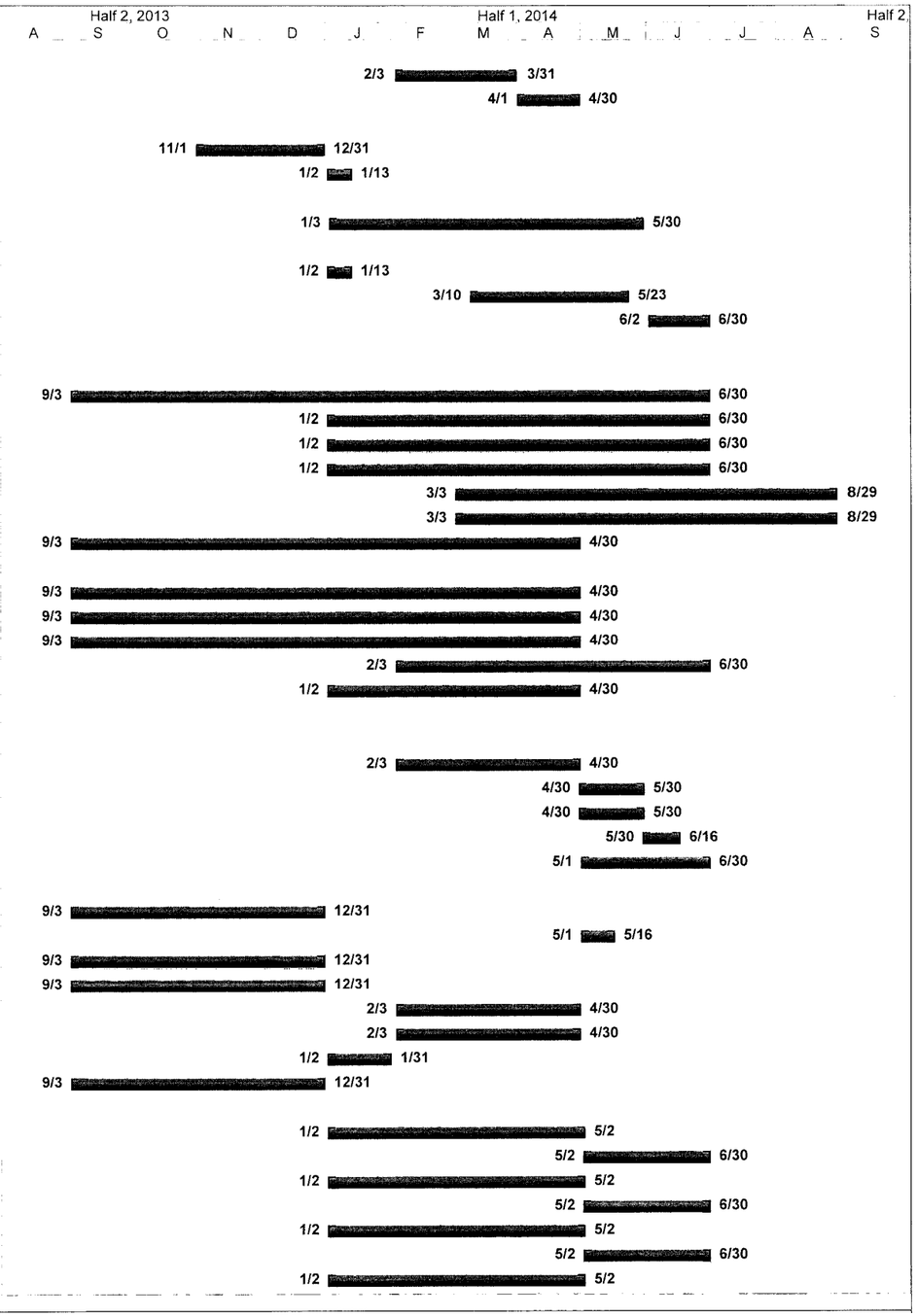
ID	Task Name	Start	Finish
263	Receive and address any edits the MBTA provides; finalize the Configuration Management Plan	Tue 4/22/14	Fri 5/2/14
264	Software Configuration Management Plan (SCMP) (ODRL-3.6-011)	Thu 1/2/14	Mon 4/21/14
265	Receive and address any edits the MBTA provides; finalize the Software Configuration Management Plan	Tue 4/22/14	Fri 5/2/14
266	The Operator Audit Plan (ODRL-3.6-012)	Thu 1/2/14	Mon 4/21/14
267	Receive and address edits the MBTA provides; finalize the Operator Audit Plan	Tue 4/22/14	Fri 5/2/14
268	Develop and submit Quality Control Manual for Capital Support (ODRL-3.6-015)	Thu 1/2/14	Wed 4/30/14
269	**4.7: Customer Service**	**Thu 1/2/14**	**Wed 4/2/14**
270	Update and submit Lost & Found Procedures (ODRL 3.7-001)	Thu 1/2/14	Fri 1/10/14
271	Update and submit the Alternate Transportation Protocols (ODRL 3.7-007)	Mon 1/20/14	Fri 2/21/14
272	Update and submit List of Alternate Transportation Bus Lines (ODRL 3.7-008)	Mon 2/3/14	Fri 2/28/14
273	Develop and submit Customer Service Satisfaction Plan (ODRL 3.7-012)	Thu 1/2/14	Mon 3/31/14
274	Develop and submit Media Communications Events List (ODRL 3.7-014)	Mon 2/3/14	Wed 4/2/14
275	**4.8: Environmental**	**Thu 1/2/14**	**Wed 4/2/14**
276	Submit Resumes for two full-time environmental compliance staff (ODRL 3.8-001)	Mon 12/2/13	Fri 1/31/14
277	Develop draft Permit Management Program (ODRL 3.8-002)	Thu 1/2/14	Fri 1/31/14
278	Submit Final Permit Management Program (ODRL 3.8-003)	Sat 2/1/14	Wed 4/2/14
279	Develop and submit Monthly Compliance Summary Example Report (ODRL 3.8-004)	Mon 1/6/14	Tue 2/4/14
280	Update/submit Draft Emergency Spill Response/Spill Prevention Control and Countermeasure (ODRL 3.8-007)	Mon 1/13/14	Fri 1/31/14
281	Submit Final Emergency Spill Response / Spill Prevention Control and Countermeasure (ODRL 3.8-008)	Sat 2/1/14	Fri 2/28/14
282	Draft Hazardous Materials Management Plan (ODRL 3.8-011)	Thu 1/2/14	Fri 1/31/14
283	Submit Final Hazardous Materials Management Plan (ODRL 3.8- 012)	Sat 2/1/14	Fri 2/28/14
284	Develop Draft Environmental Services Work Plan (ODRL 3.8-014)	Mon 1/20/14	Fri 2/21/14
285	Submit Final Environmental Services Work Plan (3.8-015)	Mon 2/24/14	Mon 3/3/14
286	Develop Health & Safety Plan and submit for MBTA approval (ODRL 3.8-018)	Mon 1/20/14	Fri 3/21/14
287	Receive and address any ediots the MBTA provides; finalize the Health & Safety Plan	Mon 3/24/14	Wed 4/2/14
288	Develop and submit Draft Individual O&M Plans, Staffing Plans & Inspection Plans (ODRL 3.8-020)	Thu 1/2/14	Mon 2/10/14
289	Receive and address MBTA edits; finalize Individual O&M, Staffing, and Inspection Plans	Tue 2/11/14	Mon 2/17/14
290	Develop and submit OWS Spare Parts List & Inventory (ODRL 3.8-024)	Thu 1/2/14	Mon 2/17/14
291	Develop and submit On-site Disposal System Spare Parts List & Inventory (ODRL 3.8-027)	Thu 1/2/14	Mon 2/17/14
292	Develop and submit Tank System Spare Parts List & Inventory (ODRL 3.8-033)	Thu 1/2/14	Mon 2/17/14
293	Update and submit Draft CRMF O&M Manual, SOPs, & Staffign Plan (ODRL 3.8-037)	Thu 1/2/14	Fri 1/31/14
294	Develop and submit Final CRMF O&M Manual, SOPs & Staffing Plan (ODRL 3.8-038)	Sat 2/1/14	Fri 2/28/14
295	Update and submit Slug Control Plan & Pretreatment Report (ODRL 3.8-039)	Mon 1/6/14	Tue 2/4/14
296	Develop and submit CRMF Wastewater System Spare Parts List & Inventory (ODRL 3.8-040)	Thu 1/2/14	Mon 2/17/14
297	Update Draft Widett O&M Manual, SOPs, and Staffing Plan (ODRL 3.8-042)	Thu 1/2/14	Fri 1/31/14
298	Submit Final Widett O&M Manual, SOPs & Staffing Plan (ODRL 3.8-043)	Sat 2/1/14	Fri 2/14/14
299	Develop and submit Widett Wastewater System Spare Parts List & Inventory (ODRL 3.8-044)	Thu 1/2/14	Mon 2/17/14
300	**4.9: Management and Personnel**	**Thu 1/2/14**	**Mon 6/30/14**
301	Develop and submit List of OGM Designees (ODRL 3.9-001)	Thu 1/2/14	Mon 3/31/14
302	Develop and submit Operator Organization Chart (ODRL 3.9-003)	Mon 1/20/14	Tue 2/18/14
303	Develop and submit List of ODGM Designees (ODRL 3.9-004)	Mon 1/27/14	Fri 2/7/14
304	Develop and submit Baseline Competency Test Plan (ODRL 3.9-015)	Mon 2/3/14	Fri 5/2/14
305	Submit Hiring Progress Reports (ODRL 3.9-016)	Fri 1/3/14	Fri 6/27/14
332	Submit Non-MBCR Workforce Hiring Explanations (ODRL 3.9-017)	Mon 1/6/14	Mon 6/30/14
359	Develop and submit Written Union Notification of The Operator Selection (ODRL 3.9-018)	Thu 1/2/14	Fri 1/10/14
360	Develop and submit Labor Terms and Pledge to Comply (ODRL 3.9-019)	Thu 1/2/14	Fri 1/10/14
361	**4.10: Training of Operator Personnel**	**Thu 1/2/14**	**Mon 6/30/14**
362	Submit Locomotive Engineer Certification (ODRL 3.10-007)	Thu 1/2/14	Fri 1/31/14
363	Submit Conductor Certification (ODRL 3.10-008)	Mon 1/6/14	Mon 3/3/14
364	Develop QMP Training Program and submit for MBTA approval (ODRL 3.10-009)	Mon 1/20/14	Thu 2/20/14
365	Receive and address any edits the MBTA provides; finalize the QMP Training Program	Fri 2/21/14	Fri 2/28/14



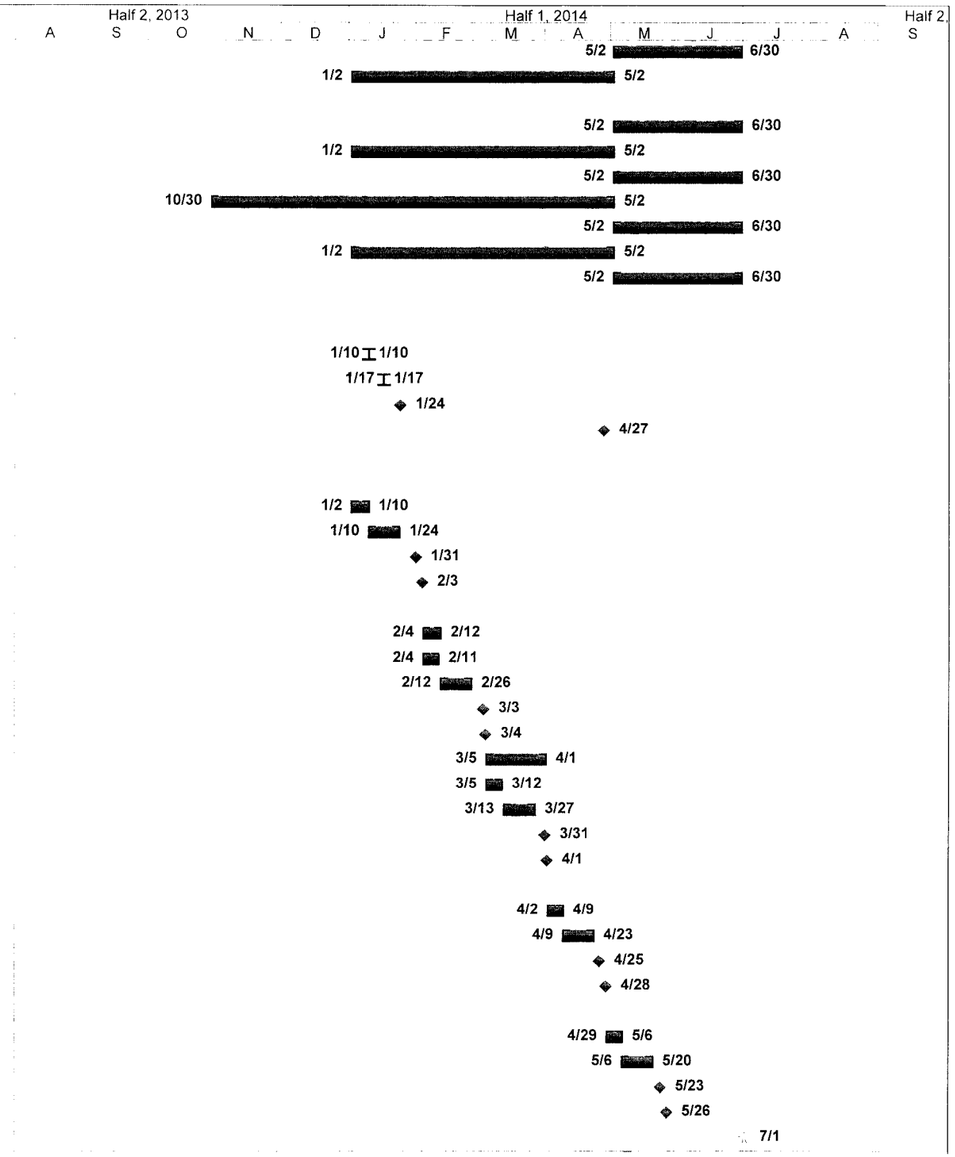
ID	Task Name	Start	Finish
366	Develop QMP Refresher Training Program and submit for MBTA approval (ODRL 3.10-010)	Mon 1/27/14	Fri 2/14/14
367	Receive and address any edits the MBTA provides; finalize the QMP Refresher Training Program	Mon 2/17/14	Mon 2/24/14
368	Develop Railroad Workplace Safety Program and submit for MBTA approval (ODRL 3.10-011)	Mon 2/3/14	Thu 2/20/14
369	Receive and address any edits the MBTA provides; finalize the Railroad Workplace Safety Program	Fri 2/21/14	Fri 2/28/14
370	Develop Emergency Preparedness Program and submit for MBTA approval (ODRL 3.10-012)	Mon 2/3/14	Fri 2/7/14
371	Receive and address MBTA edits ; finalize the Emergency Preparedness Program and submit for approval	Mon 2/10/14	Fri 2/21/14
372	Develop Refrigerant Handling Training Program and submit for MBTA approval(ODRL 3.10-013)	Thu 1/2/14	Mon 2/24/14
373	Receive and address any edits the MBTA provides; finalize the Refrigerant Handling Training Program	Fri 2/21/14	Fri 2/28/14
374	Develop Carman Training Program and submit for MBTA approval (ODRL 3.10-014)	Thu 1/2/14	Mon 3/24/14
375	Receive and address any edits the MBTA provides; finalize the Carman Training Program	Fri 3/21/14	Fri 3/28/14
376	Develop Signalman Training Program and submit for MBTA approval (ODRL 3.10-015)	Mon 3/3/14	Fri 3/7/14
377	Receive and address any edits the MBTA provides; finalize the Signalman Training Program	Mon 3/10/14	Fri 3/21/14
378	Develop and submit Machinist/Electrician/Pipefitter/Sheet Metal Worker Training Qualification Program (ODRL 3.10-016)	Thu 1/2/14	Mon 3/24/14
379	Receive and address MBTA edits; finalize the Machinist/Electrician/Pipefitter/Sheet Metal Worker Training Qualification Program	Fri 3/21/14	Fri 3/28/14
380	Submit Standardized Qualification Test and Practical Examination Materials (ODRL 3.10-017)	Thu 1/2/14	Mon 3/31/14
381	Develop New Employee Competency Evaluation and Orientation Training Program and submit for approval (ODRL 3.10-018)	Thu 1/2/14	Fri 2/21/14
382	Receive and address MBTA edits; finalize the New Employee Competency Evaluation and Orientation Training Program	Sat 2/22/14	Fri 2/28/14
383	Submit New Fleet OEM Technical Assistance (ODRL 3.10-021)	Tue 4/1/14	Mon 6/30/14
384	Develop and submit Shop Equipment OEM Technical Assistance (ODRL 3.10-022)	Tue 4/1/14	Mon 6/30/14
385	Submit and confirm that O&M Agreement Training is Complete (ODRL 3.10-023)	Mon 1/27/14	Fri 2/28/14
386	Develop Initial Training Plan and submit for MBTA approval (ODRL 3.10-026)	Thu 1/2/14	Wed 4/23/14
387	Receive and address any edits the MBTA provides; finalize the Initial Traininig Plan	Tue 4/22/14	Tue 4/29/14
388	Conduct Annual Training Plan Review Meeting (ODRL 3.10-025)	Mon 6/2/14	Mon 6/2/14
389	Develop HVAC System Troubleshooting and Repair Training Prog. and submit for approval (ODRL 3.10-027)	Mon 1/13/14	Tue 4/22/14
390	Receive and address MBTA edits; finalize the HVAC System Troubleshooting and Repair Training Program	Wed 4/23/14	Fri 5/2/14
391	Develop Non-revenue QMP Training Program and submit for MBTA approval (ODRL 3.10-028)	Mon 2/3/14	Tue 4/22/14
392	Receive and address any edits the MBTA provides; finalize the Non-revenue QMP Training Program	Wed 4/23/14	Fri 5/2/14
393	**5: Information Technology**	**Tue 9/3/13**	**Fri 8/29/14**
394	**5.1: Required IT Deliverables**	**Tue 9/3/13**	**Fri 8/29/14**
395	**5.1.1: Establish Colocation Center**	**Thu 1/2/14**	**Mon 6/30/14**
396	Engage with Corporate IT Solutions	Fri 11/1/13	Tue 12/31/13
397	Procurement Process (HW / SW / Internet)	Fri 11/1/13	Mon 2/3/14
398	Install and Configure connectivity to each collocated site	Thu 1/2/14	Fri 2/14/14
399	Extend networking capabilities to each site	Fri 2/14/14	Fri 2/28/14
400	**5.1.1.1: Install New Hardware**	**Tue 9/3/13**	**Mon 6/30/14**
401	Complete physical hardware relocation	Mon 3/3/14	Mon 3/10/14
402	Perform failover testing for both hardware and networking	Fri 3/14/14	Fri 3/28/14
403	**5.1.2 Establish Operator Service Center**	**Tue 9/3/13**	**Mon 6/30/14**
404	Hire OSC Supervisor	Tue 9/3/13	Tue 12/31/13
405	Develop OSC procedures	Mon 2/3/14	Wed 4/30/14
406	Engage with vendor for outsourced Level 1-2 IT support, initial Information Tracking Portal (ITP) configuration, iPBX / IVR configuration, Call Recording and centralized 800 number setups	Mon 2/3/14	Wed 4/30/14
407	Develop ITP Integrations	Mon 2/3/14	Fri 5/30/14
408	Test workflow (ConnectWise, IVR, Call Recording)	Tue 4/1/14	Fri 5/30/14
409	Train OSC staff on ITP and OSC procedures	Fri 11/1/13	Mon 6/30/14
410	Deploy OSC IP phones to the appropriate employees	Mon 3/3/14	Mon 3/31/14
411	Communicating the new process of calling the new 800 number and detailing what the OSC is to the user	Mon 6/2/14	Mon 6/30/14



ID	Task Name	Start	Finish
412	**5.1.3: Establish Issue Tracking Portal**	**Thu 1/2/14**	**Mon 6/30/14**
413	Customize ConnectWise application	Mon 2/3/14	Mon 3/31/14
414	Initiate Kaseya asset management data capture and integration with ITP.	Tue 4/1/14	Wed 4/30/14
415	**5.1.4: Establish Digital Repository**	**Fri 11/1/13**	**Mon 6/30/14**
416	Engage Corporate IT Solutions for implementation consulting support	Fri 11/1/13	Tue 12/31/13
417	Implement Microsoft SharePoint 2013 as the foundation for the Digital Repository	Thu 1/2/14	Mon 1/13/14
418	**5.1.4.1: Identify the Digital Repository Data Sources – documents and configuration items**	**Fri 1/3/14**	**Fri 1/31/14**
419	Develop procedures, workflows, and templates to manage the documents and configuration items ensuring current information per SLAs	Fri 1/3/14	Fri 5/30/14
420	Install Team Foundation Server to support management of the application software components	Thu 1/2/14	Mon 1/13/14
421	Implement Business Connectivity Services (BCS) to automate maintaining Configuration items	Mon 3/10/14	Fri 5/23/14
422	Train MBTA and MBCR users to maximize usage of the information available in the Digital Repository	Mon 6/2/14	Mon 6/30/14
423	**5.1.5: Trapeze Enterprise Asset Management (EAM)**	**Tue 9/3/13**	**Fri 8/29/14**
424	**5.1.5.1: Trapeze EAM for ENG Dept.**	Thu 1/2/14	Thu 1/2/14
425	Linear Focus Global Setup	Tue 9/3/13	Mon 6/30/14
426	Linear Focus- Communications & Signal	Thu 1/2/14	Mon 6/30/14
427	Linear Focus- Track	Thu 1/2/14	Mon 6/30/14
428	Linear Focus- Building & Bridges	Thu 1/2/14	Mon 6/30/14
429	Capital Planning and State of Good Repair	Mon 3/3/14	Fri 8/29/14
430	Action MAP GIS Viewer	Mon 3/3/14	Fri 8/29/14
431	Storekeeper Portal	Tue 9/3/13	Wed 4/30/14
432	**5.1.5.2: Trapeze EAM for MECH Dept.**	Thu 1/2/14	Thu 1/2/14
433	Supervisor Portal	Tue 9/3/13	Wed 4/30/14
434	Technician Portal	Tue 9/3/13	Wed 4/30/14
435	Storekeeper Portal	Tue 9/3/13	Wed 4/30/14
436	Capital Planning and State of Good Repair	Mon 2/3/14	Mon 6/30/14
437	DocuMoto- Illustrated Parts Catalog	Thu 1/2/14	Wed 4/30/14
438	**5.1.6: LifeCycle and IT Asset Management**	**Tue 9/3/13**	**Tue 7/1/14**
439	**5.1.6.1: Develop plans and procedures**	Thu 1/2/14	Fri 2/28/14
440	Configure Kaseya Software	Mon 2/3/14	Wed 4/30/14
441	Perform data population	Wed 4/30/14	Fri 5/30/14
442	Assign State of Good Repair ratings	Wed 4/30/14	Fri 5/30/14
443	Perform baseline analysis	Fri 5/30/14	Mon 6/16/14
444	Develop customize reports	Thu 5/1/14	Mon 6/30/14
445	**5.1.6.2: Hiring/ Contracting Process- Recruitment and Screening**	Tue 9/3/13	Mon 6/30/14
446	Hire / Contract IT Supervisor of Quality Assurance and IT Compliance	Tue 9/3/13	Tue 12/31/13
447	Hire / Contract IT Administrator	Thu 5/1/14	Fri 5/16/14
448	Hire / Contract Technical Writer	Tue 9/3/13	Tue 12/31/13
449	Hire / Contract Operator Service Center Supervisor (see above)	Tue 9/3/13	Tue 12/31/13
450	Hire / Contract Software Developer	Mon 2/3/14	Wed 4/30/14
451	Hire / Contract Software Application Specialist	Mon 2/3/14	Wed 4/30/14
452	Hire / Contract Security Officer-Deputy CIO	Thu 1/2/14	Fri 1/31/14
453	Hire / Contract SharePoint Administrator	Tue 9/3/13	Tue 12/31/13
454	**5.1.7: Development of IT Plans and Programs**	**Wed 10/30/13**	**Mon 6/30/14**
455	Development and submittal of Quality Control Plan for MBTA approval	Thu 1/2/14	Fri 5/2/14
456	Receive MBTA edits, implement, and finalize the Quality Control Plan	Fri 5/2/14	Mon 6/30/14
457	Development and submittal of Configuration Management Plan for MBTA approval	Thu 1/2/14	Fri 5/2/14
458	Receive MBTA edits, implement, and finalize the Configuration Management Plan	Fri 5/2/14	Mon 6/30/14
459	Development and submittal of Change Management Plan for MBTA approval	Thu 1/2/14	Fri 5/2/14
460	Receive MBTA edits, implement, and finalize the Change Management Plan	Fri 5/2/14	Mon 6/30/14
461	Development and submittal of Operator Service Center Plan for MBTA approval	Thu 1/2/14	Fri 5/2/14



ID	Task Name	Start	Finish
462	Receive MBTA edits, implement, and finalize the Operator Service Center Plan	Fri 5/2/14	Mon 6/30/14
463	Development and submittal of Infrastructure Disaster Recovery, Business Continuity and Continuation of Operations Plan for MBTA approval	Thu 1/2/14	Fri 5/2/14
464	Receive MBTA edits, implement, and finalize the Business Continuity and Continuation of Operations Plan	Fri 5/2/14	Mon 6/30/14
465	Development and submittal of Incident Response Plan for MBTA approval	Thu 1/2/14	Fri 5/2/14
466	Receive MBTA edits, implement, and finalize the Incident Response Plan	Fri 5/2/14	Mon 6/30/14
467	Development and submittal of Disaster Recovery Plan for MBTA approval	Wed 10/30/13	Fri 5/2/14
468	Receive MBTA edits, implement, and finalize the Disaster Recovery Plan	Fri 5/2/14	Mon 6/30/14
469	Development and submittal of Information Security Program for MBTA approval	Thu 1/2/14	Fri 5/2/14
470	Receive MBTA edits, implement, and finalize the Information Security Program	Fri 5/2/14	Mon 6/30/14
471	**5.1.8: IT Coordination and Requirement Review Meetings with the MBTA**	**Wed 10/30/13**	**Sun 4/27/14**
472	**5.1.8.1: MBTA IT Security Policies**	Fri 1/3/14	Fri 1/3/14
473	MBTA Asset Tracking Requirements	Fri 1/10/14	Fri 1/10/14
474	MBTA Metric monitoring requirements for Service Level Agreements	Fri 1/17/14	Fri 1/17/14
475	Operator Service Center requirements	Fri 1/24/14	Fri 1/24/14
476	Meeting to discuss audit findings with the MBTA	Wed 10/30/13	Sun 4/27/14
477	**6: Conduct Initial Joint Audit**	**Thu 1/2/14**	**Mon 5/26/14**
478	**6.1: Joint Audit of Service Property**	**Thu 1/2/14**	**Mon 2/3/14**
479	Establish scope of audit	Thu 1/2/14	Fri 1/10/14
480	Conduct Joint Audit	Fri 1/10/14	Fri 1/24/14
481	Develop Audit findings report and submit to the MBTA	Fri 1/24/14	Fri 1/31/14
482	Meeting to discuss audit findings with the MBTA	Mon 2/3/14	Mon 2/3/14
483	**6.2: Joint Audit of Service Equipment**	**Tue 2/4/14**	**Tue 4/1/14**
484	**6.2.1: Audit of Revenue Vehicles**	Tue 2/4/14	Wed 2/12/14
485	Establish scope of audit	Tue 2/4/14	Tue 2/11/14
486	Conduct Joint Audit	Wed 2/12/14	Wed 2/26/14
487	Develop Audit findings report and submit to the MBTA	Thu 2/27/14	Mon 3/3/14
488	Meeting to discuss audit findings with the MBTA	Tue 3/4/14	Tue 3/4/14
489	**6.2.2: Audit of Non-revenue vehicles**	Wed 3/5/14	Tue 4/1/14
490	Establish scope of audit	Wed 3/5/14	Wed 3/12/14
491	Conduct Joint Audit	Thu 3/13/14	Thu 3/27/14
492	Develop Audit findings report and submit to the MBTA	Thu 3/27/14	Mon 3/31/14
493	Meeting to discuss audit findings with the MBTA	Tue 4/1/14	Tue 4/1/14
494	**6.3: Joint Audit of Support Property**	**Wed 4/2/14**	**Mon 4/28/14**
495	Establish scope of audit	Wed 4/2/14	Wed 4/9/14
496	Conduct Joint Audit	Wed 4/9/14	Wed 4/23/14
497	Develop Audit findings report and submit to the MBTA	Wed 4/23/14	Fri 4/25/14
498	Meeting to discuss audit findings with the MBTA	Mon 4/28/14	Mon 4/28/14
499	**6.4: Joint Audit of Support Inventory**	**Tue 4/29/14**	**Mon 5/26/14**
500	Establish scope of audit	Tue 4/29/14	Tue 5/6/14
501	Conduct Joint Audit	Tue 5/6/14	Tue 5/20/14
502	Develop Audit findings report and submit to the MBTA	Wed 5/21/14	Fri 5/23/14
503	Meeting to discuss audit findings with the MBTA	Mon 5/26/14	Mon 5/26/14
504	**Issuance of Notice to Commence Services**	**Tue 7/1/14**	**Tue 7/1/14**



Section 12.B -
Mobilization Plan Form

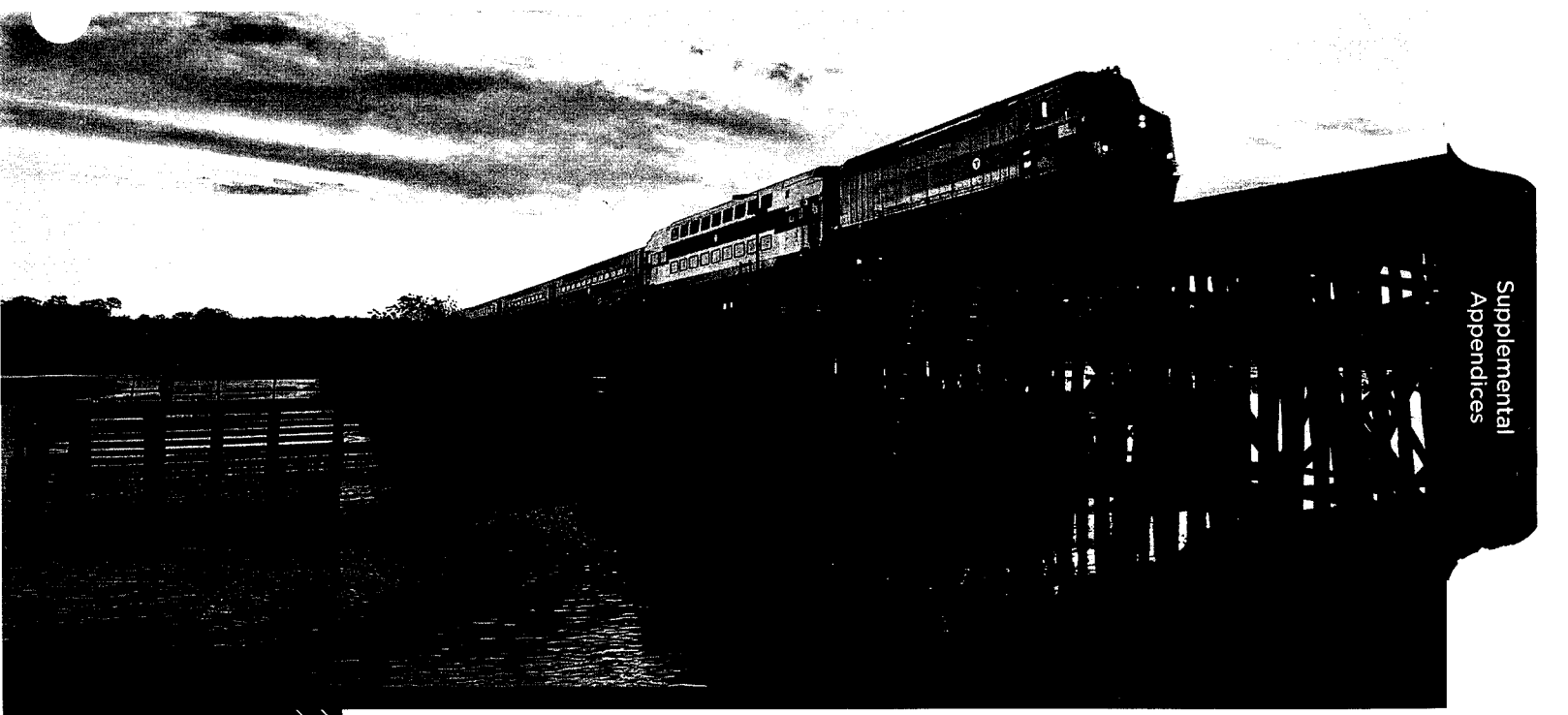
Section 12.B

Mobilization Price Form

MBCR

Supplemental Appendices

Supplemental Appendices



Supplemental Appendices

MBCR

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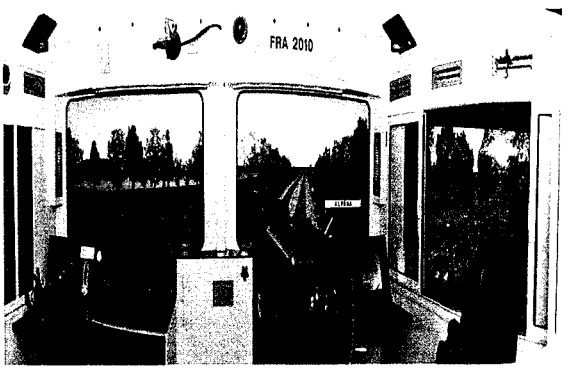
Supplemental Appendix 1 – Safety Plan

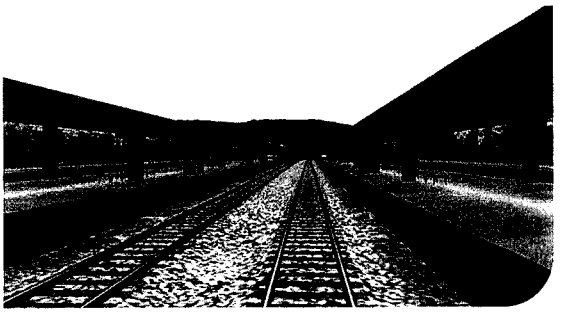
Distraction Study – Veolia and the FRA

Recognizing and Mitigating Distraction

One of MBCR's partner companies, Veolia Transportation, is working in partnership with George Mason University, the U.S. Department of Transportation's Research and Innovative Technology Administration's Volpe Center and the Federal Railroad Administration (FRA) on a research project to understand and mitigate the effects of distraction on rail operators. In 2011, the FRA awarded Veolia a contract for $250,000 to study innovative approaches to fighting distraction and attention lapses in the railroad workplace, applying the latest understanding of brain function and cognitive performance. Results of the research will help to further enhance rail system safety. Ultimately, the findings will develop training modules for locomotive and transit operators, introducing them to the concept of workplace distraction and providing them with strategies for recognizing and mitigating distraction.



Interior view of CTIL Simulator showing front and side views.



A view shot of the animated right-of-way out the front window for the engineer approaching a passenger station.

Multiple studies have shown that distraction, attention lapses and mental disengagement increase the likelihood of making errors and committing rule violations. Veolia conducted a root cause analysis of major rule violations and a follow-up survey of engineers and conductors and reached similar conclusions. These issues are of widespread concern throughout our industry and within the FRA, which motivated the FRA to partner with Veolia on this important study.

Ron Robusto, Veolia's Vice President of Safety and Regulatory Compliance, is overseeing the study and training development. Ron is working with Raja Parasuraman, PhD, University Professor and Director, PhD Program in Human Factors and Applied Cognition at George Mason University, Fairfax, Virginia. Mike Jones, FRA Program Manager Human Systems and Technology, Office of Research and Development, is also a team member.

Cognitive Distraction and Attentional Error: Reducing Major Rule Violations in High Speed, Intercity and Commuter Rail Operations

The Veolia team is now working with the FRA's Cab Technology Integration Laboratory (CTIL), a locomotive simulator designed for human performance experiment and study. Using CTIL, actual MBCR Locomotive Engineers are operating the simulator over MBCR replicated track segments as they experience various distraction scenarios. Within the next year, Veolia plans to develop, in collaboration with the Brotherhood of Locomotive Engineers and Trainmen (BLET), a comprehensive training program for railroad engineers and conductors, and ultimately operators of all forms of vehicles, to control distractions and reduce safety incidents as a result. Veolia and the FRA will make the study results and training available to MBCR and the MBTA, and over time, to the industry at large, thereby helping to improve safety performance.

Supplemental Appendix 2 – Mechanical Services Plan

2.A MBCR Fleet Retirement Plan

MBCR has reviewed MBTA's *FY 2011 – FY 2025 Commuter Rail Fleet Management Plan* outlining the projected future equipment schedule and service requirements. MBCR proposes the following retirement schedule for both locomotives and coaches taking into account the age of the equipment, current condition, funded capital improvement programs, equipment upgrades, and future service requirements. MBCR believes that this is the most effective approach in capitalizing on recent investments and establishing a Life Cycle Maintenance (LCM) overhaul program.

Service Recovery Sets

The Fleet Retirement Plan is based on the 63 consists currently operated for weekday revenue service. The 63rd consist was added with the implementation of the expanded Worcester Service on 4/29/13. These consists are a mix of single and bi-level coaches, and are sized based on ridership demand during peak AM and PM periods. MBCR currently provides one spare set on both the North and South Sides that are available as service recovery sets during the AM peak period, and then placed into revenue service as part of the existing Equipment Cycle. We will be able to revise the Equipment Cycle to make the two service recovery sets available for the PM peak period as required by the new Operating Agreement. Proposed expansion programs such as the South Coast Rail to New Bedford/Fall River will require additional equipment and MBCR would propose to store an adequate number of locomotives and coaches planned for retirement in anticipation of such expansion prior to the procurement of additional equipment.

Locomotives

The present locomotive fleet consists of three different types, F40, GP40 and MP36. A fourth type will be introduced to the fleet during the summer of 2013 with the delivery of the HSP46. MBCR projects it can satisfactorily maintain the daily service with 75 active locomotives, reducing the maintenance requirements from the present locomotive count of 81, and support future MBTA planned vehicle overhauls. This fleet size maintains a 19% spare ratio, using the FTA spare ratio formula, and assumes the new generation of locomotives will operate with a high degree of reliability. Once the LCM program has been fully implemented across all series of locomotives it may allow for possible storage of additional locomotives:

Quantity	Model	Road Nos.	Manufacturer	Manufactured Date
40	HSP46	2000 - 2039	MotivePower	August 2013-Mar 2015
25	GP40	1115-1139	EMD	Originally 1974-75, remanufactured in 1997-98
2	MP36	010-011	MotivePower	2007
8	F40PH-2C	1050-1075	EMD	1987-88

40 HSP46 Locomotives – The MBTA has committed to the procurement of 40 new HSP46 locomotives manufactured by MotivePower. The prototype unit is expected on the property in August 2013 and the production locomotives are expected to begin arriving in early 2014 with delivery of the last unit projected for early 2015. The HSP units will be equipped with an Electric

Evolution main engine that will provide 4600 HP to power an AC propulsion system and an inverter Head End Power (HEP) system to supply power for lighting and HVAC to the coaches. These locomotives will be compliant with the EPA Tier 3 standards and are expected to have 6-8% improved fuel economy over the existing locomotives, further reducing emissions.

2 MP36 Locomotives – The MBTA purchased these units, which were manufactured by MotivePower, from the Utah Transit Authority in 2010. These locomotives produce 3600 HP and are equipped with a 600KW HEP which enables them to easily accommodate the larger consists operated on the Commuter Rail system. The MP36 locomotives are environmentally friendly with a more fuel efficient main engine. The MBTA also provided funding in 2012 to purchase approximately $800,000 of capital spare parts to support the maintenance of these units.

25 GP40 Locomotives – The MBTA purchased these locomotives in 1997-98 as remanufactured units, they were originally manufactured in 1974-75. The GP40 locomotives recently completed a Top Deck Overhaul Program, Traction Motor and Main Generator overhaul and conversion to a new, fuel efficient HEP. The discovery of internal main engine damage during the preliminary inspection for the Top Deck overhaul work resulted in seven locomotives having the main engine rebuilt. In addition two of these units have been modified for use as switcher locomotives to support the performance of Agreement Services. Although the GP40 locomotives have historically had a lower Mean Distance Between Failures (MDBF) than some of the other locomotive series, we are in the process of proposing modifications to the MBTA to remedy some of these problems areas. The modifications include:

- An upgrading of the QTron QES 1000 Control System to a QES III system which will reduce PC hits and improve performance, and fuel efficiency with the auto start stop feature
- Addition of fuel water separators to the HEP fuel line to mitigate HEP failures being experienced with the new HEP application
- Modifications to the existing air dryer unit which will reduce the air problems experienced, particularly in the colder weather

8 F40PH-2C Locomotives – The MBTA purchased the F40PH-2C locomotives in 1987-88 and they received a midlife overhaul in 2001-03. Locomotives 1066 and 1074 both had main engine overhauls, new main generators and other ancillary equipment installed in 2011. Locomotive 1075 recently had exterior repairs performed by P&W and was one of the last units returned from the midlife overhaul in 2003. MBCR proposes to keep these three locomotives in service along with five others that will be chosen based on recent investment and reliability.

The units recommended for retirement include the following:

Quantity	Locomotive	Road Nos.	Manufacturer	Manufactured Date
17	F40PH-2	1000-1017	EMD	1978-80
12	F40PHM-2C	1025-1036	EMD	1991-93
9	F40PH-2C	1050-1075	EMD	1987-88

The units recommended for storage include the following:

Quantity	Locomotive	Road Nos.	Manufacturer	Manufactured Date
8	F40PH-2C	1050-1075	EMD	1987-88

17 F40PH-2 Locomotives - The first series of locomotives being recommended for retirement are the 17 F40PH-2 units, road nos. 1000-1017. These units were manufactured in 1978-80, had a midlife overhaul in 1990-91 and a top deck overhaul in 2001-2003. These units have a single 3000 HP engine to provide both tractive effort and drive the HEP. Due to this configuration the F40PH-2 locomotives are the least efficient locomotives on the property consuming more fuel than any other locomotive type. They also present operational constraints in that they do not have the power to drive the larger consists and are louder than the other locomotives resulting in noise complaints from neighbors. Finally this series of locomotives does not have an air conditioning system subjecting the engineers to uncomfortable conditions in extreme hot weather. The lack of a capital program since 2001 has resulted in catastrophic failures of the main engines in four units and the eventual retirement of Road No. 1016.

12 F40PHM-2C Locomotives – Purchased in 1991 - 93 and had a midlife overhaul in 2003-04. These locomotives are currently overdue for a Top Deck Overhaul. Based on the MBTA's service life projections these units would be scheduled for retirement in 2017. We have experienced failures of top deck components on these units which will increase exponentially without an overhaul program. This series of locomotives would have some marketability as either a freight or passenger locomotive if offered for sale.

Locomotive Summary – Recommended Fleet

Locomotives	2013	2014	2015	2016	2017	2018	2019	2020
F40PH-2	16	0	0	0	0	0	0	0
F40PH-2C	25	13	8	8	8	8	8	8
F40PHM-2C	12	0	0	0	0	0	0	0
GP40	25	25	25	25	25	25	25	25
MP36	2	2	2	2	2	2	2	2
HSP46	1	37	40	40	40	40	40	40
Total	**81**	**77**	**75**	**75**	**75**	**75**	**75**	**75**

Overhaul and Life Extension

With MBCR's proposed retirement plan we take advantage of recent investments in the GP40 extended top deck overhauls and the investment in new equipment to bring quicker results in reliability improvements. The proposed retirement, overhaul and life extension plan minimizes the number of locomotives that require top deck overhauls immediately to six. This allows for these units to be addressed and an on-time LCM overhaul program for all locomotive systems to be initiated. Please see the proposed top deck overhaul schedule below.

In order to extend the life and reliability of the F40PH-2C and GP40 locomotives beyond their planned retirement dates funding will be required to include these units in the Locomotive Truck Overhaul program and the GP40 QES III upgrade initiative.

The MBTA will be responsible for full vehicle overhauls, including top deck overhauls, of entire locomotives. MBCR will be responsible for overhauls of subsystems and components, such as HEPs, air compressors and auxiliary generators, which will be incorporated into the LCM program.

Overhaul Plan Schedule

	Road No.	Service or OH date	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
1	1066	2011				TD+							RET		
2	1069	2003		TD+							RET				
3	1070	2003		TD+							RET				
4	1071	2003		TD+							RET				
5	1072	2003		TD+							RET				
6	1073	2003		TD+							RET				
7	1075	2003		TD+							RET				
8	1074	2011				TD+							RET		
9	1132	2008			TD+							RET			
10	1118	2008			TD+							RET			
11	1131	2008			TD+							RET			
12	1128	2008			TD+							RET			
13	1119	2008			TD+							RET			
14	1129	2008			TD+							RET			
15	1116	2008			TD+							RET			
16	1133	2009			TD+							RET			
17	1135	2009			TD+							RET			
18	1134	2009				TD+							RET		
19	1115	2009				TD+							RET		
20	1122	2009				TD+							RET		
21	1125	2009				TD+							RET		
22	1139	2009				TD+							RET		
23	1124	2009				TD+							RET		
24	1137	2010				TD+							RET		
25	1121	2010				TD+							RET		
26	1138	2010					TD+							RET	
27	1130	2010					TD+							RET	
28	1136	2010					TD+							RET	
29	1127	2011					TD+							RET	
30	1123	2011					TD+							RET	
31	1117	2011					TD+							RET	
32	1120	2011					TD+							RET	
33	1126	2012					TD+							RET	
34	10	2011					TD							ML	
35	11	2011					TD							ML	
36	2000	2013						TD							ML
37	2001	2014							TD						
38	2002	2014							TD						
39	2003	2014							TD						
40	2004	2014							TD						
41	2005	2014							TD						
42	2006	2014							TD						
43	2007	2014							TD						
44	2008	2014							TD						
45	2009	2014							TD						
46	2010	2014							TD						
47	2011	2014							TD						
48	2012	2014							TD						
49	2013	2014								TD					
50	2014	2014								TD					
51	2015	2014								TD					
52	2016	2014								TD					
53	2017	2014								TD					
54	2018	2014								TD					
55	2019	2014								TD					
56	2020	2014								TD					
57	2021	2014								TD					
58	2022	2014								TD					
59	2023	2014								TD					
60	2024	2014								TD					
61	2025	2014									TD				
62	2026	2014									TD				
63	2027	2014									TD				
64	2028	2014									TD				
65	2029	2014									TD				
66	2030	2014									TD				
67	2031	2014									TD				
68	2032	2014									TD				
69	2033	2014									TD				
70	2034	2014									TD				
71	2035	2014									TD				
72	2036	2014									TD				
73	2037	2015										TD			
74	2038	2015										TD			
75	2039	2015										TD			

TD =Top Deck Overhaul, TD+ = Top Deck Overhaul + capital funded life extension such as truck inspection and renewal, RET = Retire, ML = Midlife Overhaul

Coaches

The introduction of the 75 new Rotem coaches with a 40-60% higher seating capacity than the single level fleet would allow MBCR to maintain the existing seating requirements for current ridership demand with fewer coaches. MBCR projects it can satisfactorily maintain the daily service with 377 active coaches, reducing the maintenance requirements from the present coach count of 410. This assumes the new generation of coaches will operate with a high degree of reliability.

The proposed makeup of the 377 coaches maintains a 20% spare ratio for control cars and a 10% spare ratio for blind coaches to support the coach LCM program. This approach also provides sufficient toilet cars to maintain the one per consist requirement, maintain power door configurations, and meet the ADA requirements on the Worcester line.

Please see the table below.

Control Coaches

Series	Number of coaches	Active after adjustments	20% spares	Required for service	Seats per coach	Extras to augment BTC's	Available seats for service	
1800	28	28	5	23	173		3979	
1700	24	24	4	20	175		3500	
1625	27	27	4	20	122	3	2806	
1500	34	0	0	0	96		0	
Total	**113**	**79**	**13**	**63**		**3**	**10285**	**0**

Blind Coaches (BTC's)

Series	Number of coaches	Active after adjustments	10% spares	Required for service	Seats per coach	Toilets	Available seats for service	Toilets in service	Toilet Requirements
800	47	47	4	43	179	Y	7697	43	43
700BTC4	50	50	5	45	185	N	8325		
700BTC4A	32	32	3	29	182	N	5278		
900BTC4C	33	33	3	30	178	Y	5340	30	20
1600	25	25	2	23	122	N	2806		
600	54	54	5	49	122	N	5978		
300	40	0	0	0	127	N	0		
500	33	0	0	0	88	Y	0		
200	57	57	5	52	114	N	5928		
Total	**371**	**298**	**27**	**271**			**41352**	**73**	**63**

Coaches after adjustments	**377**		
Total seats available for service after adjustment			**51637**
Current seats in service per schedule 3.3 appendix A-1			**49734**
Coaches required to maintain current service level		**337**	

Notes:

Assumption is that the Rotem option for coaches is not exercised.
3 control cars run in service as blinds
10 extra toilet cars run in service
Retire/sell 500s and 29 - 1500s.
5 - 1500s to be stored for future expansion if needed before next procurement.
Recommend storing 40 - 300s for future expansion if needed before next procurement is shown
Fleet size will be 422 coaches when including the 45 stored coaches
377 coaches required to maintain current seating capacity with a 20% spare ratio for control coaches and a 10% spare ratio for blind coaches.

Assuming that the Hyundai Rotem option is not exercised MBCR would recommend that rather than retire the entire 1500 MBB series fleet, five control cars be stored to be used for future expansion as shown in the FY 2011-2025 Commuter Rail Fleet Management Plan until additional control coaches are procured. Additionally, the forty Bombardier 300 series blind coaches removed from service should be stored for future expansion until additional coaches are procured.

The Coach fleet would consist of the following:

Quantity	Coach	Road Nos.	Manufacturer	Manufactured Date
47	BTC-4D	800-846	Hyundai - Rotem	2013-2014
28	CTC-5	1800-1827	Hyundai - Rotem	2013-2014
33	BTC-4C	900-932	Kawasaki	2005
15	BTC -4B	767-781	Kawasaki	2002
17	BTC-4A	750-766	Kawasaki	1998
50	BTC-4	700-749	Kawasaki	1990-91
24 *	CTC-4	1700-1724	Kawasaki	1990-91
57	BTC-1C	200-258	Pullman Standard	1978
54	BTC-1B	600-653	Bombardier	1989-90
52	CTC-1B	1600-1652	Bombardier	1989 -90

** Coach 1710 was damaged in a crossing incident and is listed as inactive, the MBTA has no current plans to restore to operating condition*

75 Hyundai-Rotem Coaches (800-846, 1800-1837) – Delivery of the production bi-level coaches commenced in April 2013 and approximately 45 should be placed into revenue service by the end of 2013 and the remaining 30 should be delivered in 2014. The 47 blind coaches are equipped with restrooms.

33 Kawasaki 900 Series Coaches (900-932) – Purchased in 2005-06 these bi-level coaches are all equipped with restrooms. Sixteen of these coaches are configured for power door operation for use on the Old Colony lines.

32 Kawasaki 700 Series coaches (750-781) – Fifteen bi-level coaches were purchased in 2002 and 17 were purchased in 1997 exercising an option on the original Kawasaki contract. There is an option on the midlife overhaul of the 75 legacy coaches that is tentatively planned to be exercised to overhaul this series of coaches.

74 Kawasaki Coaches (700-749, 1700-1724) – This group of bi-level coaches consists of 50 blind trailer coaches (BTC) and 24 control coaches (CTC). These coaches are currently undergoing a midlife overhaul, the first 10 coaches were shipped off the property in November 2012. The overhaul program is expected to take 4 years to complete.

57 Pullman Coaches (200-258) - Purchased in 1978-79, the Pullmans are the only series of coaches to have completed a midlife overhaul program which was performed in 1995-96. 17 coaches have been configured for power door operation for use on the Old Colony lines.

106 Bombardier Coaches (600-653, 1600-1652) – Purchased in 1989-90 most of these coaches have been through the Coach Reliability and Safety Program (CRASP) that addressed the trucks, couplers and HVAC system. Coaches 1600-1624 have had their cab controls decommissioned and operate as BTCs.

The units recommended to be retired include the following:

Quantity	Coach	Road Nos.	Manufacturer	Manufactured Date
33	BTC-3	500-532	MBB	1987-88
29	CTC-3	1500-1533	MBB	1987-88

The units recommended to be stored include the following:

Quantity	Coach	Road Nos.	Manufacturer	Manufactured Date
5	CTC-3	1500-1533	MBB	1987-88
40	BTC-1	350-389	Bombardier	1987

67 MBB Coaches – The MBB coaches are typically one of the most problematic in the fleet. The company, MBB, went out of business shortly after fulfilling the MBTA's order in 1988 and vendor support for parts replacement has been a long standing issue. The MBBs have the lowest seating capacity of all coaches, 88 in the BTCs and 94 in the CTCs, compared to the bi-level coaches which are 175-185 seats. This series of coaches has received the least capital support of all the coaches, never having a midlife overhaul which should have been planned in 2001 and only partial involvement in the CRASP Program. A floor replacement program was initiated in 2010 to prevent the FRA from removing coaches from service due to a safety issue. The 33 - 900 series Kawasaki coaches and the 47 Rotem blind trailer coaches will be equipped with toilets which is sufficient to maintain the MBTA policy of providing one toilet coach per consist and negates the need to retain any of the MBB coaches which are also equipped with bathrooms. To support future expansion prior to additional CTCs being added to the fleet 5 MBB CTCs should be stored for future use if needed.

40 Bombardier A Coaches – The Bombardier A coaches are the oldest coaches in the fleet and have not had the benefit of a midlife overhaul. These coaches were part of the CRASP Program which included the overhaul of the trucks, couplers and draft gear and HVAC systems. The Bombardier A coaches are currently beyond their projected retirement date.

Coach Summary – Recommended Fleet

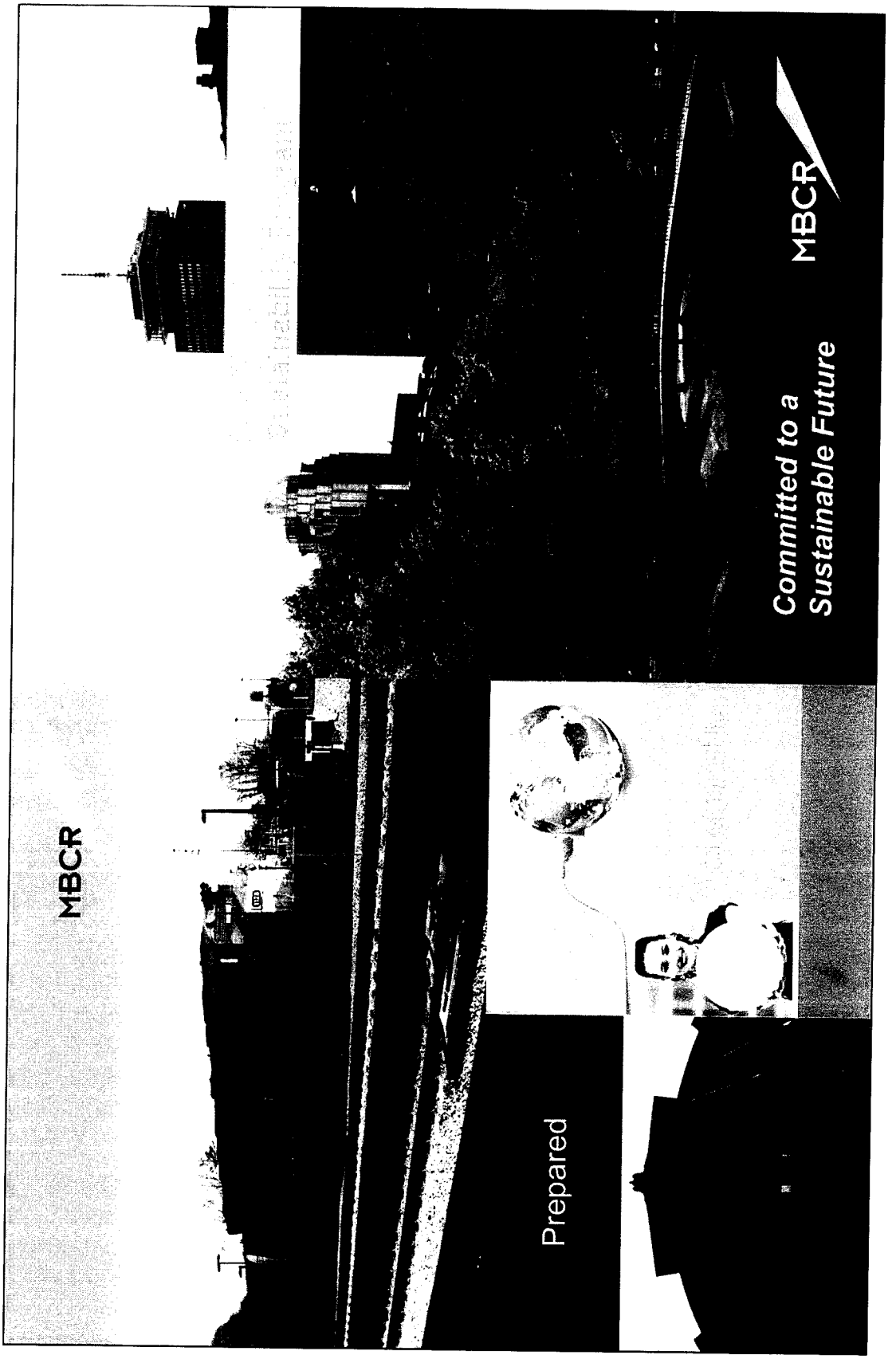
Coaches	2013	2014	2015	2016	2017	2018	2019	2020
800-846	31	47	47	47	47	47	47	47
1800-1827	14	28	28	28	28	28	28	28
900-932	33	33	33	33	33	33	33	33
750-781	32	32	32	32	32	32	32	32
700-749	43	43	43	43	50	50	50	50
1700-1724	21	21	21	21	24	24	24	24
200-258	57	57	57	57	57	57	57	57
600-653	54	54	54	54	54	54	54	54
1600-1624 (BTC)	25	25	25	25	25	25	25	25
1625-1652 (CTC)	27	27	27	27	27	27	27	27
350-389	29	14	14	14	0	0	0	0
1500-1514	15	0	0	0	0	0	0	0
Total	**381**	**381**	**381**	**381**	**377**	**377**	**377**	**377**

Note 1 – 15 1500 CTC coaches to be retained until all Rotem CTCs have been delivered
Note 2 – 14 300 series coaches, which provide approximately the same seating capacity as 10 Kawasaki coaches, to be retained until completion of Kawasaki midlife overhaul program

MBCR's recommendation of reducing the active Locomotive fleet to 75 and the active coach fleet to 377 will reduce operational costs while maintaining current service levels. Additionally, the storage of 8 locomotives and 45 coaches would support service expansion shown in the *FY 2011-2025 Commuter Rail Fleet Management Plan* until new equipment is procured. It should be noted that prior to the stored locomotives returning to service extensive maintenance and overhauls may need to be performed.

The MBTA will be responsible for full vehicle overhauls of entire coaches. MBCR will be responsible for overhauls of coach subsystems and components, such as air conditioning systems, which will be incorporated into the LCM program.

Sustainability Brochure



Sustainability Brochure

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5 Achievements to Date

6 What's Next

7 MBCR's Commitment to Sustainability

FUTURE

MBCR's Commitment to a Sustainable Future

MBCR is committed to providing the tools, resources and environment to support a healthy mode of transportation in the Commonwealth of Massachusetts, and continues to be dedicated in the development and enhancement of a comprehensive Sustainability Program for MBCR, the Massachusetts Bay Transit Authority (MBTA) and the Massachusetts Department of Transportation (MassDOT.)

Our approach to sustainability strengthens our business by:

- ✓ Empowering our employees and commuter rail users to be environmentally aware
- ✓ Encouraging our employees, users and communities to work with and use resources wisely to preserve our planet
- ✓ Developing improved practices to minimize impacts to the environment

What's Next

MBCR is currently developing several new initiatives as part of the sustainability program. These include:

Smart Buildings Initiative- This program is being developed to identify best management practices and establish ways to achieve more sustainable facilities.

- ✓ ***Energy Efficiency***-Develop an electronic controls system to open and shut doors to conserve energy during heating and cooling months.
- ✓ ***Water Efficiency***-Identify and establish a program to secure more efficient washing stations, including the use of rainwater collection systems to support train washing.
- ✓ ***Renewable Energy***- Evaluate options for roof replacement that will include the installation of solar panels to establish a secondary source of AC power.

Go Green Procurement- MBCR has established guidance and protocol for procurement operations which include the request of all vendors to participate in the MBCR Sustainability program, and an established goal to incorporate sustainability as part of the overall scorecard when selecting vendors, subcontractors, equipment and materials in the future.

MBCR

Introduction

The Massachusetts Bay Commuter Railroad (MBCR) has been promoting and conducting sustainable practices since contract inception in 2003 by incorporating environmental sustainability into the design construction, operation, maintenance and renovation of the MBTA facilities and fleet. Today, MBCR is not only integrating sustainable practices in to the daily operations of the commuter rail, but has developed a formalized Sustainability Plan to identify and drive sustainable improvements in the future.

Our Sustainability Goals

The primary goals for the MBCR Sustainability Program are consistent with those developed by the MBTA and the Massachusetts Department of Transportation's GreenDOT Program. The goals include:

- Reduce greenhouse gas (GHG) emissions
- Promote healthy transportation (to support the Commonwealth of Massachusetts Transport Compact of 2009)
- Support and integrate Emergency Preparedness

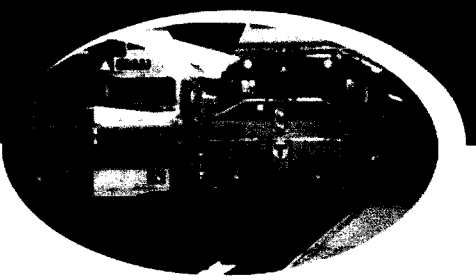
Our Sustainability Plan

We at the MBCR are proud of our business practices, and are continually recognizing opportunities to integrate sustainability into our everyday operations. Through the development of a Sustainability Plan in 2012, we defined goals, programs and key performance indicators to maintain and drive sustainable practices today, and ensure continuous improvements in our sustainable program in the future.

Our Sustainability Plan is based on a comprehensive planning framework that considers Environmental, Social and impacts, and defines programs to drive sustainability into all elements of our business.

Sustainability Brochure

Program Summary & Key Performance Indicators



Environmental

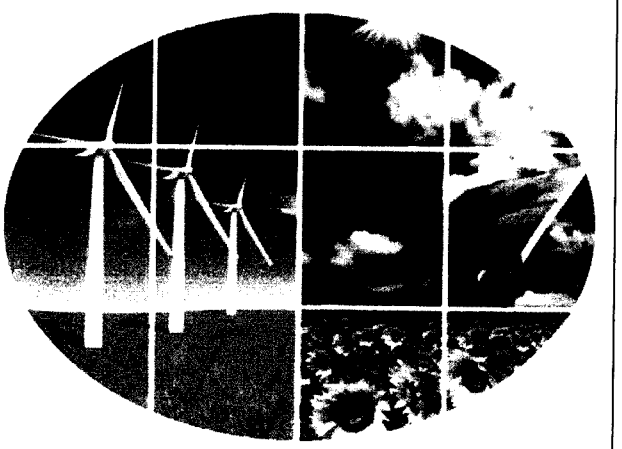
Category	Action/Program	Key Performance Indicator (KPI)
Greenhouse Gas Emissions		Tons of CO^2 reduced through emissions management
Energy efficiency	Energy Audit Program	KWh reduced through energy efficiency activities
	Smart Building Initiative	Automated Door Controls
	Renewable Energy Initiative	Evaluation of Solar Panel Upgrades on Roofing Projects
Water consumption & efficiency	Water - Efficient Train Washing Program	Gallons of water reduced through water efficiency activities
	Smart Building Initiative	Implement installation of water-efficient fixtures
Hazardous materials and dangerous goods	Hazardous Waste Reduction Program	Parts Washer Reduction/Replacement Program
	Environmental Compliance Program	Number of incidents involving hazardous materials
Waste and Recycling	Office Sustainability Program	Tons of waste reduced going to landfill and tons of material being recycled.
	Env. Compliance Paperless Program	Compliance & Audit Paperless Program Implementation
	Recycling Program at Train Stations	Number of waste and recycling initiatives implemented
Air quality	Environmental Compliance Program	Number of air pollution/idling incidents
Environmental Protection	Environmental Compliance Program	Number of surface and groundwater pollution incidents
Environmental Management	Environmental Compliance Program	Environmental management of internal operations and projects
Fuel Efficiency		Gallons of fuel reduced through fuel efficiency activities
Supply Chain and Procurement	Go Green Procurement	Expanding relationships with sustainable suppliers through purchasing agreements Procurement
		Number of Sustainable procurement policy and activities undertaken
		Supplies - Volume of recycled products purchased
		Paper - Tons of paper reduced through paper reduction and efficiency activities
Health and Safety	Fire prevention	Number of fire incidents
	Employee Engagement	Workforce representation in health and safety committees and injury rates
	OSHA	Reportable Metrics
Ethics		Employee reporting & communications, anticorruption initiatives, Human Rights and Ethics Policy
Training and Development		Average hour of training per employee per year
Community Partnerships and Outreach		Number of community projects to heighten awareness of environmental sustainability
		Customer Relations Help Line - Number of responses
		Stakeholder interactions
Economic Performance	Long-term Cost Saving Initiative	Annual reporting and tracking
	Fiscal Responsibility	Annual Reporting
Business Partnerships		Annual Reporting
		Sharing the Wealth - Target for diversity and MBE/WMB Businesses

Sustainability Brochure

to Date

To date, MBCR has instituted a sustainability program that drives improvements and establishes a long-term commitment to build sustainability into the core business. Select sustainability initiatives implemented to date include:

- **Environmental Management System (EMS)-** MBCR has developed an EMS system to track and maintain information to support and maintain 100% environmental compliance for all business operations.
- **Office Sustainability Program-** MBCR has initiated an Office Sustainability Program that improves waste reduction and promotes recycling, use of recycled paper and environmentally friendly office products. It also drives energy efficiency through the installation and use of motions sensor lighting in office area and the installation of new energy efficient lighting fixtures and bulbs.
- **Energy Efficiency Program-** MBCR has developed a systematic program to conduct energy audits at all facilities to identify areas for improvements, and establish plans to improve energy efficiency at all locations.
- **Hazardous Waste Reduction Program-** MBCR has developed a program to systematically replace outdated parts washers with self-cleaning units that will result in long-term cost savings and reduce the generation of hazardous waste.
- **Paperless Compliance Reporting (PCR) -** MCBR's compliance program is currently unveiling a paperless reporting program, where all field reporting and compliance audit checklist management is completed electronically via the use of a portable tablet. These reports are completed in real-time, and fed directly into MBCR's Environmental Management System (EMS).



Supplemental Appendix 7 – Training Plan

Training Overview

MBCR has effectively implemented improvements and innovations to the MBTA's Commuter Rail system by cultivating a data and performance driven team. This has been initiated and will continue to be achieved and improved by ensuring that all employees are provided with industry leading training to increase and expand their abilities. Our goal is for each employee to understand how their performance contributes to the overall success of the organization and to ensure that they possess the skills to be successful. MBCR will continue to provide comprehensive training programs that comply with, and often exceed the requirements of the FRA and the MBTA. These workforce development efforts will fulfill all necessary compliance mandates while ensuring a highly-skilled and motivated team. Most importantly, it will position the workforce for delivering outstanding service to our customers, the MBTA and passengers who ride the trains.

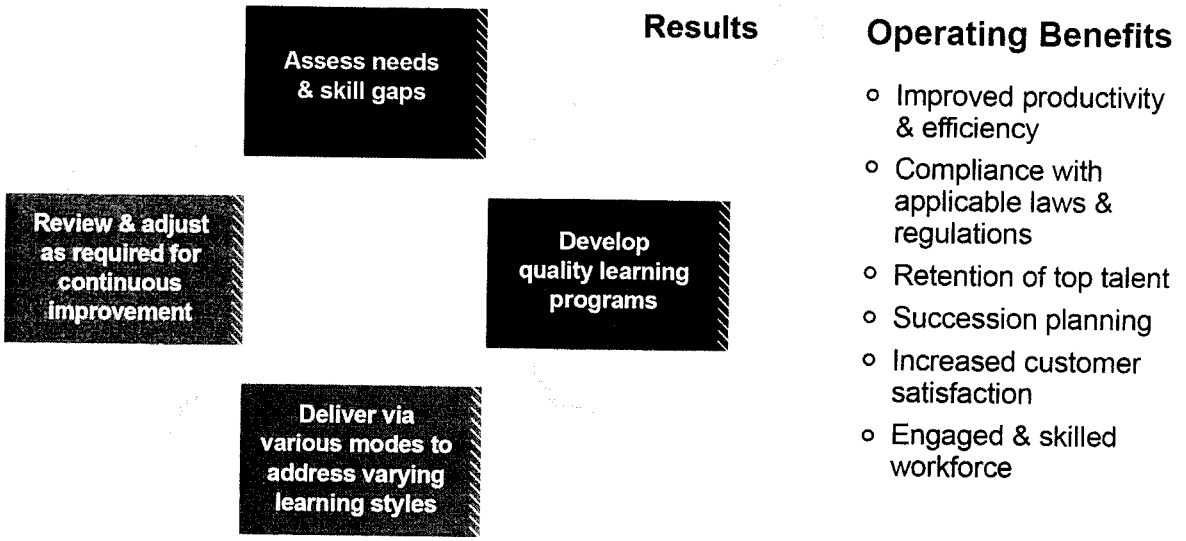
Training Philosophy - Transition from Training to Learning

As an outcome of our focus on Continuous Improvement, MBCR is transitioning from an organization that "trains" to one that "learns". The differentiating factor is our plan to enhance our content to encompass behavioral or experiential adult learning methods. In this pursuit, MBCR will invest in workforce development that follows these principles:

- Value employees' ideas, creativity, and potential growth
- See employees as subject matter experts
- Develop new ways to support learning through varied methods, resources, and techniques to ensure engagement
- Continuously look for ways to change, adapt, and improve
- Develop learning that takes place not only at the group level but also at the individual level through mentoring, coaching, and providing consistent feedback

MBCR's training team is restructuring content, media, delivery, and skill development to create an organizational training environment suited for continuous learning. We are aligned with MBTA principles that workforce development is one of the cornerstones of an effective and efficient team.

MBCR's Learning Model:


Assess needs & skill gaps
Develop quality learning programs
Deliver via various modes to address varying learning styles
Review & adjust as required for continuous improvement
Results
Operating Benefits
Improved productivity & efficiency
Compliance with applicable laws & regulations
Retention of top talent
Succession planning
Increased customer satisfaction
Engaged & skilled workforce

- **Assess Needs and Skill Gaps:** determine required training for both regulatory compliance and technical management competencies
- **Quality Learning Program:** comprehensive curriculum, learning support with strategic oversight, management development programs, performance measures, investment in technology, industry and community awareness programs
- **Delivery:** understand varying adult learning styles and deliver curriculum efficiently via facilitator-led web-based sessions, classroom learning, on-line/self-directed learning, etc.
- **Continuous Improvement:** leverage technology in the learning process, expand coaching & mentoring programs, create opportunities for career development & personal growth

Training Approach – A Solution for Developing our Workforce

MBCR successfully develops and retains a highly specialized workforce despite the challenge of being in an industry with many employees retiring and technologies advancing. We have preserved the expertise and knowledge from our existing workforce and will continue to pass on valuable institutional knowledge as well as enhanced technical training through our curricula and training programs. As part of our transformation to a learning organization, we will encourage two-way dialogue and communication to continuously improve our program. Our solution includes four pillars.

1. Learning Center

MBCR has leased 4,500 square feet in Readville to initiate our Training Center of Excellence. This facility includes classrooms; office space for vendors and our training managers; workstations for hands-on learning; activity support areas; storage; two locomotive simulators to train Locomotive Engineers in safe train handling; and a two car track to facilitate intimate training on the new equipment in an enclosed working environment.

2. Dedicated Manager, Learning & Development

Already employed, our Learning and Development Manager Manager is responsible for the implementation of our Workforce Development Model. The Model includes (a) bringing efficiencies to our training delivery; (b) ensuring that the experiential learning methods are employed; (c) that systems are utilized for proper reporting and accountability and (d) proper resources are brought to the table to meet our commitments.

3. Curriculum Expansion & Varying Delivery Methods

While a great number of training programs already exist, MBCR will strive to add programs to fill identified skill gaps and to bring new and improved programs. These programs will ensure our team stays current and that each person and team has the opportunity to rise to their full potential. As examples, we will focus on the following:

Train-the-Trainer Program

MBCR has been successful in leveraging the existing workforce using the train-the-trainer methodology on the MBTA system. This approach has created highly qualified subject matter experts across the organization in over 100 training courses. This program has been instrumental in our ability to successfully train and certify large numbers of highly skilled employees. To continue to enhance our skills and foster the creation of a Learning Organization, MBCR is designing train-the-trainer curricula which will include the following:

- Preparation/planning/design
- Presentation skills
- Demonstrating the ability to engage the learners
- Checking for understanding
- Understanding adult learning/identifying adult learning styles
- Creating tools for demonstrated application of learning

Management Training and Development

MBCR knows that management development is critical to the success of our organization. Therefore, in order to maintain a strong leadership team, MBCR has designed a comprehensive management training program which includes courses on leadership skills, coaching, conflict resolution, and quality management. The program goal is to ensure that MBCR managers will be given all necessary training to lead, manage and mentor effectively in their designated area of responsibility, and have the skills to create and sustain an organization of continuous improvement and accountability.

Employee Development Resources

MBCR has partnered with local area colleges and schools to offer employees opportunities to enhance their business and trade skills, as well as their knowledge for increased health and wellness. Through our partnership with Bunker Hill Community College, courses have been offered at our facilities including:

- Maximizing Your Supervisory Potential
- Communicating and Connecting with Others
- Business Writing Skills
- Finance 101

MBCR continuously attracts a diverse workforce through our educational outreach activities and by providing opportunities for growth and advancement within our company. We pride ourselves on our ability to recruit and retain young, motivated candidates. For the past three years we have partnered with local schools to provide students an introduction to the railroad industry, and have supported community youth programs such as ABCD (Action for Boston Community Development Inc.) and Tech Apprentice.

4. Implement a Learning Management System

MBCR plans to invest in SuccessFactors, a world-class Learning Management System (LMS). The LMS will provide a central repository of information to vastly improve access across all departments to required and non-required training courses, materials and assessments. Additionally, it will enable better execution of a broader array of training programs, customized to employee craft and tenure. MBCR will submit plans to the IT Change Control Board to evaluate the benefits of the system.

Some of the capabilities of the LMS system will be:

MBCR'S LEARNING MANAGEMENT SYSTEM	
Capability	**Benefit**
Information Structure and Database	Accurately maintain training records, including all regulatory and required training courses. Manage at the individual learner level and serve to facilitate the scheduling and enrollment.
Reporting & Alerts	Improved access to reporting information. Consolidated data creates a single source from which to run reports and track data and processes. Compliance and regulatory reporting is more accurate and easier to locate with consolidated data. Alerts can provide vital communication regarding renewals and expirations of necessary certifications or licenses. Through its connectivity with payroll and safety systems, the LMS can become the central repository and management tool to ensure that training is being delivered effectively.

MBCR'S LEARNING MANAGEMENT SYSTEM	
Capability	**Benefit**
On-Line Training Portal	Through employee self-service components, the LMS will be accessible for employees who have their manager's approval to access on-line training programs. For courses that can be delivered on-line, the LMS can track student progress effectively. Training content for certain base skill, refresher, reference and soft skills can be delivered from the LMS.
Training Catalog	Enables employees to see their learning path by providing direct access to training opportunities for themselves and for their staff. The catalog can be structured by department (Customer Service, Mechanical, Transportation, etc.) and can also be cross-referenced by competency or managerial level.
Online Assessments	Offers flexible options for when and where employees take assessments. Allows creation and distribution of multiple versions, question banks are made available for re-structuring and re-use, and ability to score and analyze data instantly.

Credibility and Measurement – Maintaining a Skilled Workforce

MBCR takes great pride in our ability to deliver quality rail service through our 1,800 men and women who every day perform thousands of tasks that require technical knowledge and skill. Keeping our workforce trained and certified is a significant planning and logistics effort that requires needs assessment, development of curricula and delivery methods, trained instructors and mentors, and coordination to ensure that the learner experience is positive in every aspect.

MBCR knows the workforce and how to train them. Our Training Department, in coordination with all other departments, ensures that the staff operating and maintaining the MBTA Commuter Rail system are technically prepared to perform their work, and managers are prepared to effectively lead their teams. We look forward to reporting on course completion, learner evaluation, and many other training KPIs that will provide useful information to review, revise and enhance our approach.

Specific Curriculum – Course examples

Our objective is to ensure that employees are not only well-trained at all levels, but are also engaged and loyal to MBCR. We envision offering transparency in career paths and will hold managers accountable for the development of their employees. We know that certain courses apply to every MBCR employee, such as First Aid, and others are designed to develop managerial competencies, such as The Foundations of Management, Behavioral Interview Skills, Managing Within the Law and and others strive to achieve on-the-job skill development.

Training Matrices

Following are sample sets of courses from the Engineering, Mechanical, Transportation, Customer Service and Safety Departments. These courses are in addition to employee New Hire Orientation courses and many soft-skill training and computer-related courses.

Safety Training Matrix

Frequency	Course Title	Federal Reporting Officer (FRO)	Safety Specialists -Transportation / Mechanical Oversight	Safety Specialist - Engineering Oversight	Safety Specialists / Directors -Transportation	Managers *(Where applicable)*
Initial	DOT Incident Investigation		•	•	•	•
Initial	DOT Advanced Incident Investigation		•	•	•	•
Initial	DOT Transit Rail System Safety		•	•	•	•
Initial	DOT System Security		•	•	•	•
Initial	DOT Effectively Managing Transit Emergencies		•	•	•	•
Initial	DOT Advanced Incident Investigation		•	•	•	•
Initial	NORAC Initial - Engineering			•		•
Initial	MW-1			•		•
Initial	NORAC Initial - Transportation		•		•	•
Initial	OSHA 1910 General Industry - 30 hour		•	•	•	•
Initial	OSHA 1910 Construction - 30 hour		•	•	•	•
Initial	OSHA 1910 General Industry Outreach Authorization		•			•
Initial	OSHA 1910 Construction Outreach Authorization		•			•
Initial	NIMS Training	•	•	•	•	•
Initial	Quality Management Training					•
Initial	Six Sigma LEAN Training					•
Initial	IT Security Policies and Standards	•	•	•	•	•
Annually	Roadway Worker Protection - SWPP/SPCC		•	•	•	•
Annually	NORAC Refresher - Engineering			•		•
Annually	Physical Characteristics Requalification - Engineering			•		•
Biennially	CPR and First Aid		•	•	•	•
Biennially	Supervisor's Drug & Alcohol Compliance Training		•	•	•	•
Biennially	NORAC Refresher - Transportation				•	•
Triennially or when required by FRA	Part 225 Accident/Incident FRA Guide and Record Keeping	•				•
Refresher every 4 years	OSHA 1910 General Industry Outreach Authorization - Refresher		•	•	•	•
Refresher every 4 years	OSHA 1910 Construction Outreach Authorization - Refresher		•	•	•	•
Refresher every 3 years	MW-1 Requalification			•		•

Mechanical Training Matrix

Frequency	Course Title	Machinist	Car Inspector	Electrician	Coach Cleaner	Foreman	Laborer	Foreman II	Foreman III	Sheet Metal/ Boiler Worker	Managers (Where applicable)
Initial	NORAC Rules Training	•	•	•	•	•	•	•	•	•	•
Initial	Safety Rules	•	•	•	•	•	•	•	•	•	•
Initial	System Safety Plan	•	•	•	•	•	•	•	•	•	•
Initial	System Security Plan	•	•	•	•	•	•	•	•	•	•
Initial	Class 1 Inspections - Part 232.205		•								•
Initial	EPREP/Incident Management										•
Initial	Accident Investigation										•
Initial	Derailment Investigation										•
Initial	Single Car Passenger Test 238 - Initial		•								•
Initial	Carman Basic Skills										•
Initial	Welding Basic		•								•
Initial	New Fleet Equipment - Rotem (OEM)		•	•	•	•	•	•	•	•	•
Initial	New Locomotive Training - MPI (OEM)	•	•	•	•	•	•	•	•	•	•
Initial	HVAC Troubleshoot/Repair			•						•	•
Initial	HVAC Refridgerant Handling			•							•
Initial	Fueling (Locomotive)					•	•				•
Initial	Moving Defective Equipment - Initial	•	•	•				•	•		•
Initial	Locomotive Inspection Class - Initial	•		•				•	•		•
Initial	On-the-Job Rotation	•	•	•	•	•	•	•	•	•	•
Initial	Class 1 & 1A Brake Test / Interior-Ext Insp. - (QMP)		•					•	•		•
Initial	Blue Flag Protection	•	•	•	•	•	•	•	•	•	•
Initial	Confined Space Entry						•				•
Initial	Fall Protection	•	•	•	•	•	•	•	•	•	•
Initial	Lock Out / Tag Out Training	•	•	•	•	•	•	•	•	•	•
Initial	Respirator Fit Test		•				•			•	•
Initial	Fork Lift Training						•				•
Initial	Crane / Hoist Rigging	•	•				•				•
Initial	HAZCOM Training						•				•
Initial	Hazardous Waste Training - Initial						•				•
Initial	AMTRAK Electrified Area Training - (AMT2)	•	•	•	•	•	•	•	•	•	•
Initial	HAZ Woper						•				•
Initail	Confined Space Entry - Supervisor						•				•
Initial	Confined Space Entry - Attendant						•				•
Initial	Quality Management Training / ASQ Certification										•
Initial	Six Sigma LEAN Training										•
Initial	IT Security Policies and Standards	•	•	•	•	•	•	•	•	•	•
Annually	Haz Woper - Refresher						•				•
Annually	Respirator Fit Test	•	•	•			•	•	•	•	•
Annually	Lock Out / Tag Out Training - Refresher	•	•	•				•	•	•	•
Annually	Confined Space Entry - Attendant Refresher Training						•				•
Annually	Confined Space Entry - Supervisor Refresher Training						•				•
Triennially	Single Car Passenger Test 238 Refresher		•								•
Triennially	Single Car Freight Test Class 232.305		•								•
Triennially	Locomotive Inspection Class	•						•	•		•
Triennially	Class 1 Inspections - Part 232.205 Refresher		•					•	•		•
Triennially	Class 1 & 1A Brake Test / Interior-Exterior Insp. (QMP)		•					•	•		•
Triennially	Moving Defective Equipment	•	•	•				•	•		•
Triennially	Fork Lift Refresher Training						•				•
Triennially	Crane / Hoist Rigging Refresher	•	•				•				•
Triennially	Fall Protection (refresher)	•	•	•	•	•	•	•	•	•	•

Engineering Training Matrix (Part 1)

Offered	Course Title	Clerk	Trainer	Safety Liason	Work Equipment Repairmen	ARASA Foreman Mechanic	Foreman-Track	Asst. Foreman - Track	Welding Foreman - Track	Welder - Track	Truck Driver	Track Laborer	Highway Crossing Tender	Machine Operator	B&B Foreman	B&B Mechanic	Drawbridge Operator	Signal Inspector	Asst. Foreman - Signal	Signal Maintainer	Signalman	Electronic Technician	Electronic Specialist	Radio Maintainer	ARASA Electrical Foreman	Electrician	ARASA Foreman Plumber	Plumber	ARASA Machinist Foreman	Machinist	Managers *(Where applicable)*
Initial	Accident Investigation																														•
Initial	Bridge Worker Safety			•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•					•	•			•	•	•
Initial	Roadway Worker Protection - R-FRA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Initial	Derailment																														•
Initial	Emergency Response and Incident Management																														•
Initial	NORAC - Engineering R-FRA		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Initial	Oxygen-Acetylene Initial Training				•	•			•	•			•	•	•												•	•	•	•	•
Initial	CSX Rules- Engineering Only Worcester R-FRA		•	•			•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•							•
Initial	General Machine Operation																														•
Initial	Pole Climbing / Protection																														•
Initial	C&S 1 and C&S 2 Training																•	•	•	•				•	•						•
Initial	MW-1 Qualification R-FRA		•			•	•										•	•	•	•											•
Initial	Human Resources Orientation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Initial	Hydraulics Training				•	•																									•
Initial	Maint. Of Way Machine Operator Training (Various) R-FRA				•								•																		•
Initial	New Hire Track and B&B Training										•				•																•
Initial	Instructional Techniques For New Instructors		•																												•
Initial	Health and Safety Orientation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Initial	CPR and First Aid	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Initial	Fall Protection R						•							•	•		•		•	•			•		•	•					•
Initial	OSHA 10-Hour Training	•																													•
Initial	Lock Out / Tag Out Training			•	•	•	•	•					•				•		•	•	•	•	•	•	•			•	•		•
Initial	Hand & Power Tools Training			•	•	•	•	•					•	•	•					•								•	•		•
Initial	Machine Guarding Training			•	•	•	•						•	•	•					•							•	•	•		•
Initial	Confined Space Entry Training													•	•												•	•	•		•
Initial	Confined Space Entry - Attendant Training													•	•		•	•	•	•			•	•			•	•	•		•
Initial	Confined Space Entry - Supervisor Training													•	•		•	•	•	•			•	•			•	•	•		•
Initial	Respirator Fit Test					•	•	•	•		•		•	•	•		•						•	•			•	•	•		•
Initial	Fork Lift Training				•	•							•	•	•													•			•
Initial	Crane / Hoist Rigging				•	•							•	•			•		•	•									•	•	•

Engineering Training Matrix (Part 2)

Offered	Course Title	Clerk	Trainer	Safety Liason	Work Equipment Repairmen	ARASA Foreman Mechanic	Foreman-Track	Asst. Foreman - Track	Welding Foreman - Track	Welder - Track	Truck Driver	Track Laborer	Highway Crossing Tender	Machine Operator	B&B Foreman	B&B Mechanic	Drawbridge Operator	Signal Inspector	Asst. Foreman - Signal	Signal Maintainer	Signalman	Electronic Technician	Electronic Specialist	Radio Maintainer	ARASA Electrical Foreman	Electrician	ARASA Foreman Plumber	Plumber	ARASA Machinist Foreman	Machinist	Managers *(Where applicable)*
Initial	HAZCOM Training			•	•	•	•	•		•	•		•	•	•			•								•	•	•	•	•	•
Initial	Hazardous Waste Training			•	•	•																									•
Initial	Chemical / Emergency Spill Response			•	•		•							•		•		•								•		•			•
Initial	Signalman Training R-new hires																			•			•								•
Initial	Tamper Repair Training			•	•																										•
Initial	Physical Characteristics Qualification R-FRA		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Initial	NIMS Training	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Initial	Quality Management Training																														•
Initial	Six Sigma LEAN Training																														•
Initial	IT Security Policies and Standards	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Annually	NORAC Refresher - Engineering R-FRA		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Annually	Roadway Worker Protection Refresher R-FRA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Annually	Oxygen-Acetylene Requalification R			•	•			•	•			•	•	•																	•
Annually	Physical Characteristics Requalification R-FRA		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Annually	C&S 1 & 2 Training R																														•
Annually	Railroad Workplace Safety	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•											•
Annually	Confined Space Entry Refresher Training													•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Annually	Respirator Fit Test Refresher													•	•											•	•				•
Annually	Lock Out / Tag Out Training - Refresher				•	•	•	•	•		•	•	•	•	•			•								•	•		•		•
Annually	Machine Guarding Training - Refresher				•	•	•	•				•		•	•	•			•	•	•	•	•	•	•	•		•		•	•
Annually	Chemical / Emergency Spill Response Refresher				•	•	•							•		•		•					•		•	•		•			•
Annually	CWR Training R-FRA			•			•	•	•																						•
Biennially	MW-1 Requalification R		•				•	•																							•
Biennially	High Voltage Electrical Safety																														•
Biennially	Bridge Worker Safety - Refresher R-FRA			•	•		•	•	•	•	•	•	•	•	•	•	•	•	•					•	•						•
Biennially	Electrical Awareness	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•
Biennially	CPR & First Aid Recertification	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•
Refresher	Derailment																														•
Refresher	Emergency Response and Incident Management																														•

Transportation Training Matrix

Frequency	Course Title	Train Dispatcher	Block Operator	Crew Dispatcher	Locomotive Engineer	Conductor	Asst. Conductor	Road Foreman	Transportation Manager (Where applicable)
Initial	Providing Excellent Customer Service				•		•		•
Initial	MassDOT "How Can I Help You Today"					•	•	•	•
Initial	Going the Extra Mile					•	•		•
Initial	Verbal Judo (Conflict Management) Delivered By Transit Police					•	•		•
Initial	Recognizing Counterfeit Money and Tickets					•	•		•
Initial	"Delivering & Achieving First Class Service" (New For 2014)					•	•		•
Initial	Trauma Intervention Program (TIP) (New for 2014)				•	•	•	•	•
Initial	Tactical Awareness Communication Techniques (TACT) (New for 2014)					•	•	•	•
Initial	Managing a Customer Service Culture (New For 2014)							•	•
Initial	Equipment Familiarization				•	•	•	•	•
Initial	Class 1 & 1A Brake Test / Interior-Exterior Insp. - Initial				•	•	•	•	•
Initial	Health and Safety Orientation	•	•	•	•	•	•	•	•
Initial	Supervisor Drug and Alcohol Training							•	•
Initial	Accident/Incident Documentation Briefing							•	•
Initial	Terrorism Awareness Training	•	•	•	•	•	•	•	•
Initial	Introduction to SSP	•	•	•	•	•	•	•	•
Initial	Safety Training	•	•	•	•	•	•	•	•
Initial	Critical Incident Peer Support Training				•	•	•	•	•
Initial	Accident & Incident Investigation							•	•
Initial	Assistant Conductor Orientation						•		
Initial	Assistant Conductor Airbrake						•		
Initial	Conductor Equipment Familiarization					•			
Initial	Conductor Revenue Training					•	•		
Initial	NORAC Operating Rules	•	•		•	•	•	•	•
Initial	Emergency Preparedness Training	•	•		•	•	•	•	•
Initial	Electrified Area Training - AMT2	•	•		•	•	•	•	•
Initial	Assistant Conductor Final Exam						•		
Initial	Locomotive Engineer Training				•			•	•
Initial	CSX Rules				•	•	•	•	•
Initial	NORAC Operating Rules for Dispatchers	•							
Initial	Personal Protective Equipment Review	•	•	•	•	•	•	•	•
Initial	New Equipment Training	•			•	•	•	•	•
Initial	NIMS Training	•				•		•	•
Initial	Preventing Violence in the Workplace	•	•	•	•	•	•	•	•
Initial	Quality Management Training								•
Initial	Six Sigma LEAN Training								•
Initial	IT Security Policies and Standards	•	•	•	•	•	•	•	•
Annually	Electrified Area Training - AMT2 Refresher	•	•	•	•	•	•	•	•
Annually	NORAC Operating Rules Transportation Refresher	•	•		•	•	•	•	•
Annually	CSX Rules Refresher				•	•	•	•	•
Biennially	CPR / AED / FIRST AID	•	•	•	•	•	•	•	•
Biennially	Emergency Preparedness/Security Training	•	•		•	•	•	•	•
Biennially	Airbrake - Train Crews - Refresher				•	•	•	•	•
Biennially	ADA Awareness				•	•	•	•	•
Biennially	Diversity & Harrassment / Sexual Harrassment Prevention Training	•	•	•	•	•	•	•	•
Triennially	Class 1 Inspections - Part 232.205 Refresher				•	•	•	•	•
Triennially	Class 1 & 1A Brake Test / Interior Insp.				•	•	•	•	•
Triennially	Moving Defective Equipment				•	•	•	•	•
Triennially	ATC / Access Refresher							•	•
Triennially	Locomotive Engineer Recertification Class							•	•
Triennially	Conductor Re-certification (conductor only)					•			
As needed	Engineer Instructor Training (Locomotive Engineer)								•
As needed	Conductor Promotion					•	•	•	

Customer Service Training Matrix

		Customer Service Department				
Frequency	Course Title	Cashier	Ticket Agent	Revenue Team	Customer Service Representatives	Customer Service Managers
Initial	MassDOT "How Can I Help You Today"	•	•	•	•	•
Initial	Terrorism Awareness	•	•	•	•	•
Initial	Going the Extra Mile	•	•	•	•	•
Initial	Providing Excellent Customer Service	•	•	•	•	•
Initial	Verbal Judo (Conflict Management) Delivered By Transit Police	•	•	•	•	•
Initial	Recognizing Counterfeit Money and Tickets	•	•	•		
Initial	Preventing Violence in the Workplace	•	•	•	•	•
Initial	(New For 2014) "Delivering & Achieving First Class Service"	•	•	•	•	•
Initial	(New for 2014)Trauma Intervention Program (TIP)	•	•	•	•	•
Initial	(New for 2014) Tactical Awareness Communication Techniques (TACT)	•	•	•	•	•
Initial	(New For 2014) Managing a Customer Service Culture					•
Initial	NIMS Training (New)			•	•	•
Initial	Quality Management Training					•
Initial	Six Sigma LEAN Training					•
Initial	IT Security Policies and Standards	•	•	•	•	•
Biennially	ADA Awareness	•	•	•	•	•
Biennially	CPR and AED	•	•	•	•	•
Biennially	Diversity & Harassment / Sexual Harassment Prevention Training	•	•	•	•	•
Biennially	Writing Effective Reports and Statements	•	•	•	•	
As Needed	Realigning Service Performance Standards	Required training for frontline employees with performance issues				

Supplemental Appendix 8 – Quality Plan

MBCR Quality Assurance Plan

Our Quality Program is intended to guide all members of the MBCR Quality Management Team (QMT) in the delivery of services that meet the highest quality standards. We value the ISO Quality Management principles, including customer focus, leadership, involvement of people, a process approach, a system approach to management, continual improvement, a factual approach to decision-making, and the establishment of mutually beneficial supplier relationships. We will ensure that all third parties MBCR works with will also comply with these quality management standards.

At MBCR, our Quality Program consists of a Quality Policy, a Quality Assurance Plan (QAP), and the associated quality manuals, procedures and instructions. Our Quality Policy states that we are dedicated to assuring passenger satisfaction by providing quality service and results, and we will continue to perform all activities in a manner which meets or exceeds the expectations of the MBTA and our passengers. The QAP consists of the documented procedures, policies, plans and organizational activities of MBCR, our subcontractors, and suppliers. The purpose of the QAP is to assure that all work, processes, and documentation conform to contract requirements. It was developed based on ISO Quality Management standards and the elements recommended by the Federal Transit Administration's Quality Assurance (QA) and Quality Control (QC) Guidelines. For each element, the QAP defines overall requirements and responsibilities for implementation.

The elements of the QAP are listed below and detailed in the subsequent sections.

1. Management Responsibility
2. Documented Quality Management System
3. Design Control
4. Document Control
5. Purchasing
6. Product Identification and Traceability
7. Process Control
8. Inspection and Testing
9. Nonconformance, Corrective Action, and Preventative Action
10. Quality Records
11. Standards and References
12. Quality Audits
13. Training and Certification

Elements Of The QAP

Management Responsibility

Under the guidance and direction of the MBCR General Manager, the QMT consists of a Quality Manager (QM) and 8 Quality Assurance Representatives (QAR), each designated to a specific function: (1) Transportation, Customer Service & Information, (2) Engineering – Buildings, Structures, & Facilities, (3) Engineering – Maintenance of Way & Wayside Systems, (4) Mechanical, (5) Purchasing, Material & Stores, (6) Documentation & Reporting, (7) Measurement & Compliance, and (8) Safety, Security, and Environment. The QMT has responsibility for:

- Establishing QAP objectives
- Communicating to QAP participants the importance of meeting requirements
- Conducting management quality reviews
- Providing the necessary resources to implement the QAP

Our QAP will function as a "center of excellence." This means that rather than building a separate quality expertise within each department, the QMT will have distinctive expertise in quality and will be responsible for sharing that knowledge with the entire organization.

The QM is responsible for planning, implementing, evaluating, and maintaining an effective Quality Management System. Responsibilities include:

- Overseeing the management of the quality of all aspects of the work performed by MBCR under the contract
- Developing, implementing, and tracking the QAP
- Reviewing and approving quality plans and manuals submitted by participants
- Conducting QAP reviews and ensuring adherence to all instructions, processes and procedures documented through the QAP
- Reporting to the General Manager for quality oversight and auditing of the QAP
- Overseeing regulatory compliance (including FRA, OSHA, APTA, DEP, and FTA requirements)
- Supervising the development of work procedures and approving all quality work instructions
- Anticipating, addressing, and preventing all issues of QAP nonconformance
- Updating and distributing control of all quality-related manuals
- Directing all inspection and auditing activities
- Reviewing and maintaining Quality Records
- Coordinating preventative and corrective action procedures
- Approving all subcontractors, suppliers, and other business partners

Our Quality Manager (QM), William Gilbert, is a member of the American Society of Quality (ASQ), and has over 27 years of relevant experience in managing and monitoring quality for major US companies and the Federal Government. He has a Master's Degree in Management, and a Bachelor's Degree in Communications Technology.

The QARs are responsible for developing and implementing quality plans that meet the requirements of the QAP. The entire quality staff will play significant roles as part of MBCR's center of excellence, but on top of that each individual QAR will be responsible for developing meaningful quality relationships within their own functional areas.

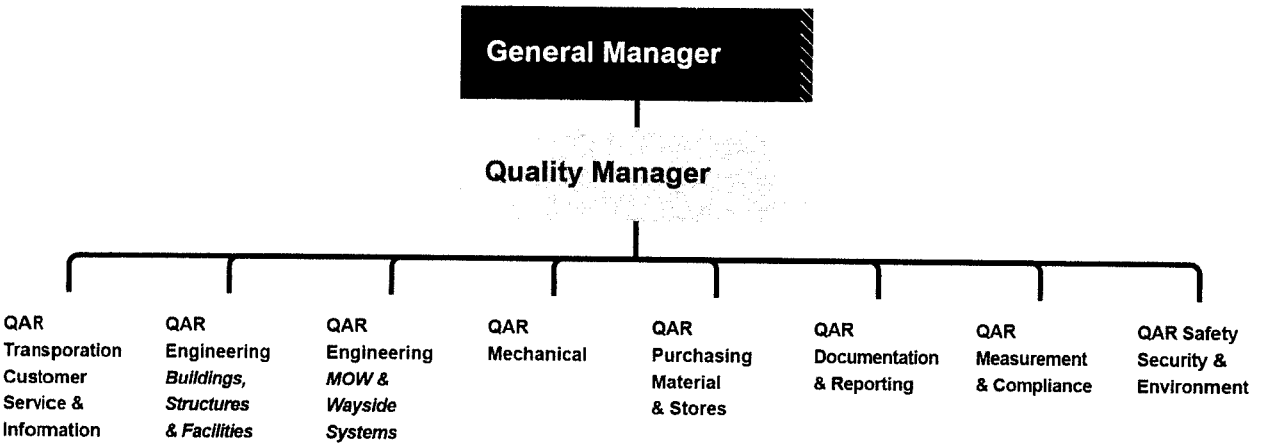
Within these functional areas of expertise, the role of the QARs will include:

- Responsibility for promoting, monitoring and evaluating quality-related activities. MBCR will work continually to advance our established KPIs, enabling us to track our performance in meeting benchmark criteria.
- Development and implementation of detailed program procedures and performance general administration
- Provision of program controls, including planning, scheduling, cost control, scope, and change control
- Execution of the QAP

Quality Organization Chart

This organizational chart describes the structure of MBCR's QMT.

Quality Organization Chart


General Manager
Quality Manager
QAR Transporation Customer Service & Information
QAR Engineering Buildings, Structures & Facilities
QAR Engineering MOW & Wayside Systems
QAR Mechanical
QAR Purchasing Material & Stores
QAR Documentation & Reporting
QAR Measurement & Compliance
QAR Safety Security & Environment

Documented Quality Management System

The MBCR Quality Management System (QMS) is shaped by the requirements of both ISO standards and FTA QA and QC Guidelines. The QMS consists of the organizational structure, responsibilities, procedures, processes and resources for implementing quality management at MBCR.

Our QMS ensures that MBCR continuously seeks to improve the services that are delivered to our passengers. It has the following characteristics:

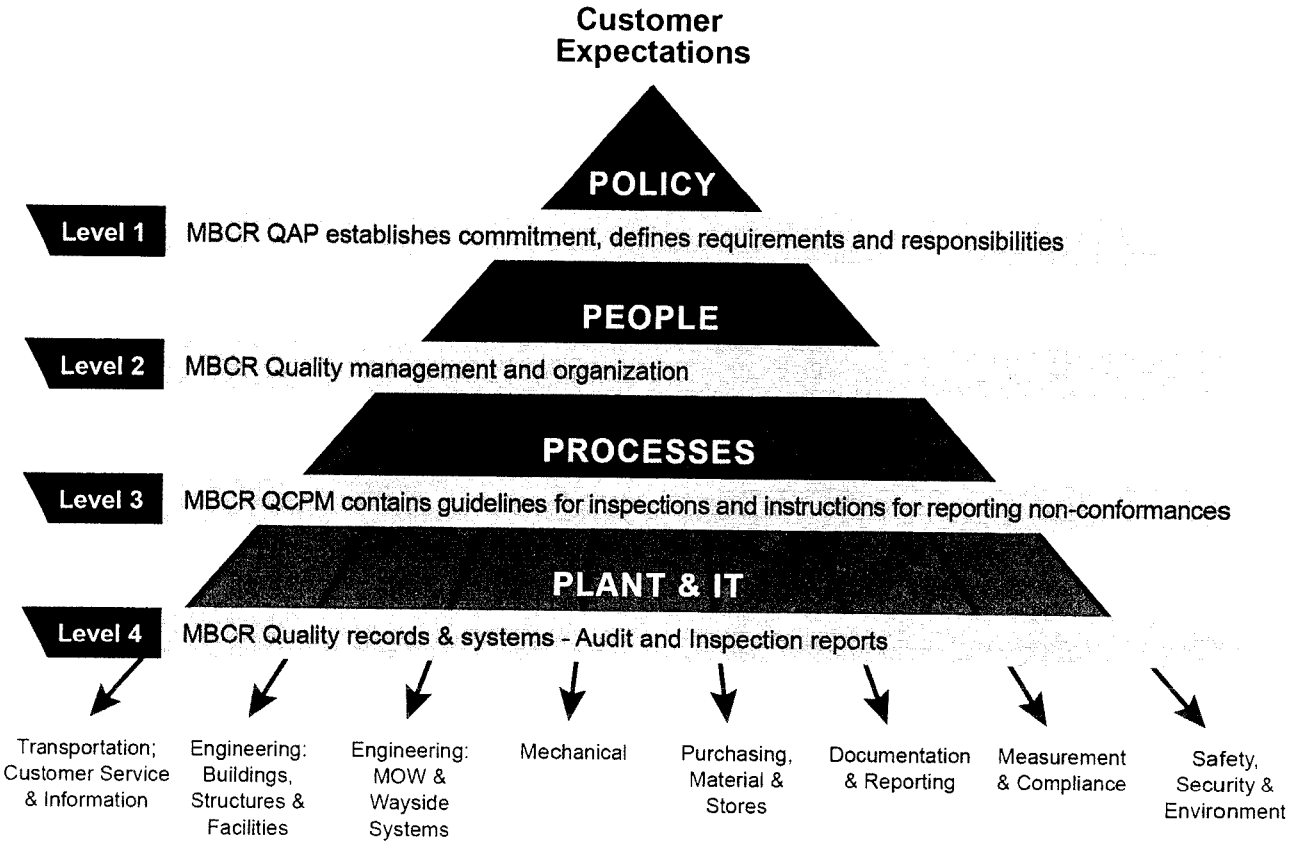
- From the General Manager to the Quality Manager, we will drive a quality process that instills a culture in which quality is valued and all levels of management are involved in quality initiatives. MBCR's top management will provide the resources and personnel necessary to accomplish our quality objectives and to deliver services that continuously meet or exceed passenger expectations.
- Our focus will be on customer satisfaction; we seek to satisfy both the MBTA and the Commuter Rail's passengers. Internal and external customer requirements have been clearly identified, and decisions will be made that support our commitment to meet those requirements.
- We will strive for continuous improvement by regularly identifying key areas for improvement in our transportation operations, engineering services, mechanical services, and safety plan.
- Teamwork and employee participation are crucial. All MBCR employees will participate to deliver services that meet requirements for performance, cost, and schedule.
- Rigorous training and development will take place. Employees at all levels within the organization will receive basic or advanced quality training, whichever is appropriate relative to their functional and managerial responsibilities, to ensure they are ready and able to execute the QAP efficiently and effectively.
- The QAP will be reviewed and updated continuously, and any problems indicated with the plan or its implementation will be immediately addressed and corrected.
- Written instructions for implementing the various components of our QMS will be provided in Quality Control Process Manuals (QCPM) for each of the following functional areas:

Transportation, Customer Service, Engineering, Mechanical, Materials Management, Capital Project Support, Safety, and Environmental. The manuals will include guidelines for conducting QC inspections, documenting performance failures, and documenting incidents of noncompliance with the QAP. The manuals will include a log of updates or new processes that are added and will be maintained as current. Manuals will be made available electronically to users (including the MBTA) through an MBTA-supplied or MBTA-approved system. The QCPM will include work instructions, as needed, to assure that critical processes are executed and documented in a uniform and transparent manner.

› Our Documented QMS is modeled after three ISO 9001 Quality Management Standards in particular:

- Product Realization: Quality standards governing MBCR rail service and maintenance is shaped by ISO 9001 requirements for Product Realization, with particular emphasis on meeting MBTA and passenger needs. We will ensure that our processes and procedures are suitable for providing services exactly as passengers desire them. This will be done through Design Control, Document Control, Purchasing, Product Identification and Traceability, Process Control, Inspection, Testing and Quality Records.
- Resource Management: MBCR processes regarding management, human resources and training, facilities, and workmanship standards are modeled after ISO 9001 standards for Resource Management.
- Measurement, Analysis & Improvement: We are committed to continuous improvement and have developed procedures that permit us to constantly monitor information on passenger satisfaction. We also have processes in place to analyze relevant customer data. Other components of our QAP that will address measurement, analysis and improvement will be detailed later in this document, including control of nonconformity, corrective and preventative action, and audits.

MBCR Quality Management System Overview



Source: Norbridge Analysis based on Transbay Transit Center and FTA QA/QC Guidelines

Design Control

Particularly relevant to MBTA-MBCR capital projects is a managed, well-defined process to control the design of any new capital or infrastructure investment projects. MBCR's quality objective of design control is to establish and maintain procedures to ensure that specified design requirements are met. We will use these procedures in our plan of recommended capital improvements as part of our Engineering Plan.

Document & Record Control

Our QAP will establish procedures and requirements for the control of all documents. These document control measures ensure that all relevant documents are current and available to all users that require them. The control of project documents includes the review of documents by authorized personnel, the distribution and storage of these documents, the elimination of obsolete documents, and control of changes to the documents. The QAR for Documentation and Reporting is responsible for developing and implementing a system used to track, store, and organize all documents and data related to quality control. We will also ensure that all third parties MBCR works with have implemented similar QA and QC systems and procedures. Types of quality documents requiring control include those related to operational procedures, QAP procedures, quality-related training, auditing, and other QMS procedures. Quality document control will also adhere to the relevant ISO requirements.

Purchasing

The FTA's QA and QC Guidelines recommend that all transit agencies include purchasing as an element of their quality programs. Since MBCR is a service organization, the emphasis on QA as related to purchasing is primarily applicable for our Mechanical and Engineering departments. Our QAP defines requirements that ensure all MBCR purchasing activities are held to the highest quality standards. This includes the preparation, review, approval and control of our procurement activities. Purchasing requirements apply to all MBCR contractors and suppliers. The QAR for Purchasing, Material & Stores is responsible for verifying compliance with this policy, which includes reviewing selected suppliers and contractors to ensure that they are compliant with MBCR quality standards. The requirements will clearly specify MBCR expectations for purchasing, including relevant standards, drawings, specifications, process requirements, inspection instructions, and approval criteria.

Product Identification and Traceability

Product Identification and Traceability is a secondary focus of our QAP due to the service nature of our organization. But, like purchasing, it is recommended by the FTA for inclusion in all transit agencies' quality programs. As such, MBCR will establish and maintain measures for identifying and controlling items and services provided by all third parties we work with, including subcontractors and suppliers. Our Mechanical Department, Engineering Department, and all third parties must conform to MBCR quality standards.

Process Control

Process control is an essential component of our QAP. As a service organization, MBCR is committed to ensuring that all processes necessary to operate the railroad are optimized, standardized, regularly reviewed, and executed at the highest level of quality. The QAP will confirm that these processes are performed under controlled conditions. Frequent review of all vital processes will occur to verify that the processes are carried out as stipulated by the QAP. In instances where deficiencies are recognized or potential improvements identified, the QM will work with the appropriate department and/or person(s) to make sure that appropriate action is taken. Processes that are not achieving the desired results, or are doing so on an inconsistent basis, will be re-examined until an alternative solution is discovered. We will also continuously monitor processes whose results cannot be easily verified. All MBCR internal processes will be scrutinized and held to the process control standards outlined by our QAP; all processes managed by third parties that MBCR works with will be held to our standardized set of process control measures as well.

The QM, with support from all QARs, will be responsible for process control. Each QAR will be held accountable for control of the processes within their own functional areas. The QAR for Documentation and Reporting will ensure that each department complies with this policy.

Our process control standards are based on the ideas of Lean Management and Six Sigma. We seek to maximize customer value while minimizing waste and variability in processes. Consistency in process execution is a key driver of safe commuter rail operations and OTP. To ensure consistency, we subscribe to the "Plan – Execute – Monitor - Assess" continuous improvement cycle. Management leadership and support are crucial, as is an unwavering commitment from the entire organization. Other guiding principles of MBCR's process control standards include:

- The provision of documented work instructions in all departments to ensure quality. This applies for all processes, even well-established ones that rarely result in problems.
- Assurance that all processes are carried out using the appropriate resources. This may include equipment, personnel, or anything else required to execute the processes as safely, efficiently, and effectively as possible.

- Maintenance of a suitable working environment, personnel qualifications, and conformance with appropriate standards and codes.
- Monitoring and controlling of all steps in the process. Continuous monitoring is particularly important in processes where the quality of the end result is impacted by previous steps but retrospective auditing reveals no issues.

For successful process control, it is essential to ensure that work is performed correctly and in the proper sequence. Documented work instructions can help with this, along with quality tools such as Kaizen, Value Stream Mapping (VSM), and the Process Improvement Matrix (PIM). Kaizen, which means "continuous improvement" in Japanese, is an essential focus of our QAP. It is predicated on two major concepts: first, on the continuous examination of all processes, operations, and procedures, and second, on the commitment of all employees to finding ways to standardize and improve all activities conducted by the organization. We are dedicated to taking advantage of this tool to achieve immediate and measurable improvements in the entire quality arena, but particularly relating to process control. VSM is another quality tool we will train our employees in. VSM is a particular type of flow chart used to illustrate and improve the flow of information and processes in an organization. It will assist us in the integration of processes where possible and will help distinguish between value added and non-value added steps. VSM provides a cross-functional view of the organization and thus permits management to see how each process flows through the entire value stream. For the steps that do add value, it helps to identify potential improvements. In addition to Kaizen and VSM, several MBCR departments will utilize the PIM, which is a tool for monitoring and managing all process improvement and QA activities. The PIM is essentially a roadmap of process improvement plans and current process status.

Inspection and Testing

MBCR will augment its inspection and testing as necessary to verify that all procedures, equipment, systems, and processes comply with the QAP. This includes those internal to MBCR and those provided by third parties. Both inspection and process monitoring methods will be performed as necessary to ensure that the specified requirements for the control and quality of work processes are being achieved throughout the duration of the work. Inspections will be regular and will be clearly documented. Any instances of noncompliance will be addressed appropriately, which will be confirmed by additional inspections. The QM will work with the QAR's to carry out inspections. The QAR's will be responsible for the documentation, reporting, and record keeping of all inspections and tests. In our inspection and testing program, we emphasize work directly affecting safety, service reliability, and OTP.

- As part of our inspection and testing procedures, we will develop and implement calibration standards, processes, procedures and documentation for all tools and equipment used at MBCR. All tools and equipment will be periodically calibrated and maintained in calibration, or identified as being out of calibration and otherwise secured to prevent accidental use. All calibration standards will comply with the National Bureau of Standards, and calibration history and frequency records will be maintained and available.

Nonconformance, Corrective Action, and Preventive Action

MBCR will strengthen its procedures to control nonconforming work (i.e. procedures, processes, and any other relevant work that doesn't pass MBCR quality standards). Nonconforming work will be documented and evaluated to determine appropriate disposition. MBCR will define the responsibility for review and authority for the disposition of nonconforming work in documented procedures. It will subsequently be handled according to QAP stipulations.

MBCR will also establish, document, and maintain corrective action procedures for the investigation of the cause of nonconforming work and the corrective action necessary to prevent its recurrence.

Procedures will be implemented for analysis to detect and eliminate potential causes of nonconforming work, from which preventative action processes will be developed. Changes in procedures resulting from corrective action will be implemented and recorded as needed. Specific procedures will be established for analyzing processes to detect and eliminate potential causes of nonconformance, initiating preventative actions, ensuring that corrective actions are taken and that they are effective, and implementing and recording changes in procedures resulting from corrective action.

Quality Records

A set of requirements will be outlined to manage the identification, collection, storage, indexing, filing, and maintenance of all quality-related records. Quality records include all records required by the QAP and its supporting procedures, manuals, and specifications. The QM and the QAR for Documentation and Reporting are responsible for ensuring that quality record procedures are established, implemented, and maintained, as well as for verifying that they are accurate, legible, and complete. Requirements will identify which records should be kept and how they will be organized and/or disposed. Examples of the types of records that require control are inspection reports, process improvement documents, nonconformance and corrective action documents, training certificates, calibration records, and audit reports.

Standards and References

To ensure that the QAP is carried out in compliance with this contract, we will follow industry and national quality standards, such as those established by APTA, ANSI, ASQ, and ISO. All process, procedures, and instruction documents relating to our QAP will comply with these standards. In instances where industry and national standards are not applicable, we will develop our own MBTA-approved standards. We have already initiated ISO compliance in three of our Mechanical shops. We will leverage this recent success to build high quality standards throughout the organization.

Our quality standards and references procedures also include the development of a Configuration Management Plan (CMP). Our CMP governs the configuration of all Service Property, Support Property and Service Equipment. It will encompass all processes, documents, and equipment used to provide services. The CMP will include sections for document control and revisions, vehicle and system history books as maintained by the MBTA, and a Software Configuration Management Plan (SCMP). It will address the maintenance of all equipment and systems, ensuring that they are up to MBTA and OEM standards. Our SCMP will be comprehensive, involving a software inventory of all Service Equipment and Support Property including all software/firmware files and other software configurable files, whether onboard, wayside or diagnostic equipment.

In addition to our CMP and SCMP, we will develop a set of workmanship standards that comply with our QAP. They will require that workmanship is maintained at a level of quality consistent with the functional requirements of the work and that workmanship is defined to the greatest practical extent by written standards.

Audits

Our Audit Plan is an essential part of the QAP. Regular, planned, and documented internal and external quality audits will be executed to verify successful implementation of the QAP and determine its effectiveness. The Audit Plan will also ensure that our QAP addresses both MBTA and national standards. The QM, with assistance from QARs, is responsible for overseeing the planning and execution of the audits of all QAP activities. Audits will be performed of all functional areas in addition to all relevant third parties. Internal and external audits will serve as feedback on the effectiveness of the QAP/QMS and will identify where corrective action needs to be taken. In the audit process, emphasis will be placed on safety, OTP, and all other areas that directly impact the passenger satisfaction and well-being.

Audits will be performed by auditors with appropriate certifications and experience. Specialists will be consulted when necessary. The QMT will outline requirements for each stage of the audit process, starting with Audit Planning. This phase necessitates that auditors carefully review all relevant documents and standards before conducting an audit (e.g. the QAP, processes and procedures, and industry standards), along with results of any previous audits. The next stage is Audit Execution, which is governed by defined procedures customized for each functional area. Instances of noncompliance will be documented and corrective actions identified with set deadlines and accountabilities. The third phase involves the development of an Audit Report that identifies the scope of the audit, its results, and the corrective action plan (if necessary). The Report will also contain an assessment of the QAP's effectiveness as it relates to the specific area being audited. MBCR will prepare an Audit Summary Report for the MBTA on a quarterly basis. This Report will contain a summary of all audits conducted during that time period and will include a schedule for submission of all Audit Reports. The final stage is an Audit Follow-Up. Follow-up verification will occur to ensure that the discussed corrective action has taken place, and MBCR will provide evidence to the original auditor proving that the corrective action has been implemented.

MBCR also recognizes that the MBTA has the right at any time to conduct its own audits of MBCR, our subcontractors, and our suppliers. This includes audits of our training, inspection, maintenance and safety programs, plus all relevant procedures and documentation. We will fully cooperate and assist in such audits and in any corrective action required as a result.

Training

In 2013, MBCR began training to ASQ certify its management staff to support the implementation of our QAP. All MBCR employees with a role in developing or executing the QAP will obtain appropriate training and/or certification. The purpose of such training is to ensure that all involved personnel are familiar with the requirements of the QAP. Both internal and external quality training programs will provide employees with specific education and training covering the requirements, procedures, and application of the QAP to their assigned tasks and area of responsibilities.

Training sessions will be scheduled, and attendance and course content will be documented. MBCR will define the qualifications required for involved personnel. Appropriate QA certifications (and re-certification when necessary) will be supported, and certification dates will be documented. Documentation of specialized training and certification records will be maintained in a system that indicates the date of initial qualification and any refresher training, specifies the date of expiration of the certification, provides for notification of the employee and his or her supervisor of the need for recertification prior to expiration, and is available to QA personnel to verify the worker's qualification to do the work during audits and inspections

Summary

MBCR recognizes that this QAP is not a static management tool. We will measure, analyze, and improve as time goes on to ensure that our QAP remains consistent with our quality management principles (which coincide with those of the ISO) and that it continues to provide us with the ability to completely satisfy both the MBTA and the Commuter Rail's passengers. We are committed to continuous improvement, and this QAP will assist us in achieving that goal.